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Mathematical TABLES,

Contrived after a most *Comprehensive Method*:

VIZ. *Henry Hopley*

A TABLE of *Logarithms*, from 1 to 101000.
To which is added (upon the same Page) The
Differences and *Proportional Parts*, whereby the
Logarithm of any Number under 10,000,000 may
easily be found.

TABLES of *Natural Sines*, *Tangents* and *Secants*,
with their *Logarithms*, and *Logarithmick Differences*
to every Minute of the Quadrant.

TABLES of *Natural Versed Sines*, and their *Logarithms*,
to every Minute of the Quadrant.

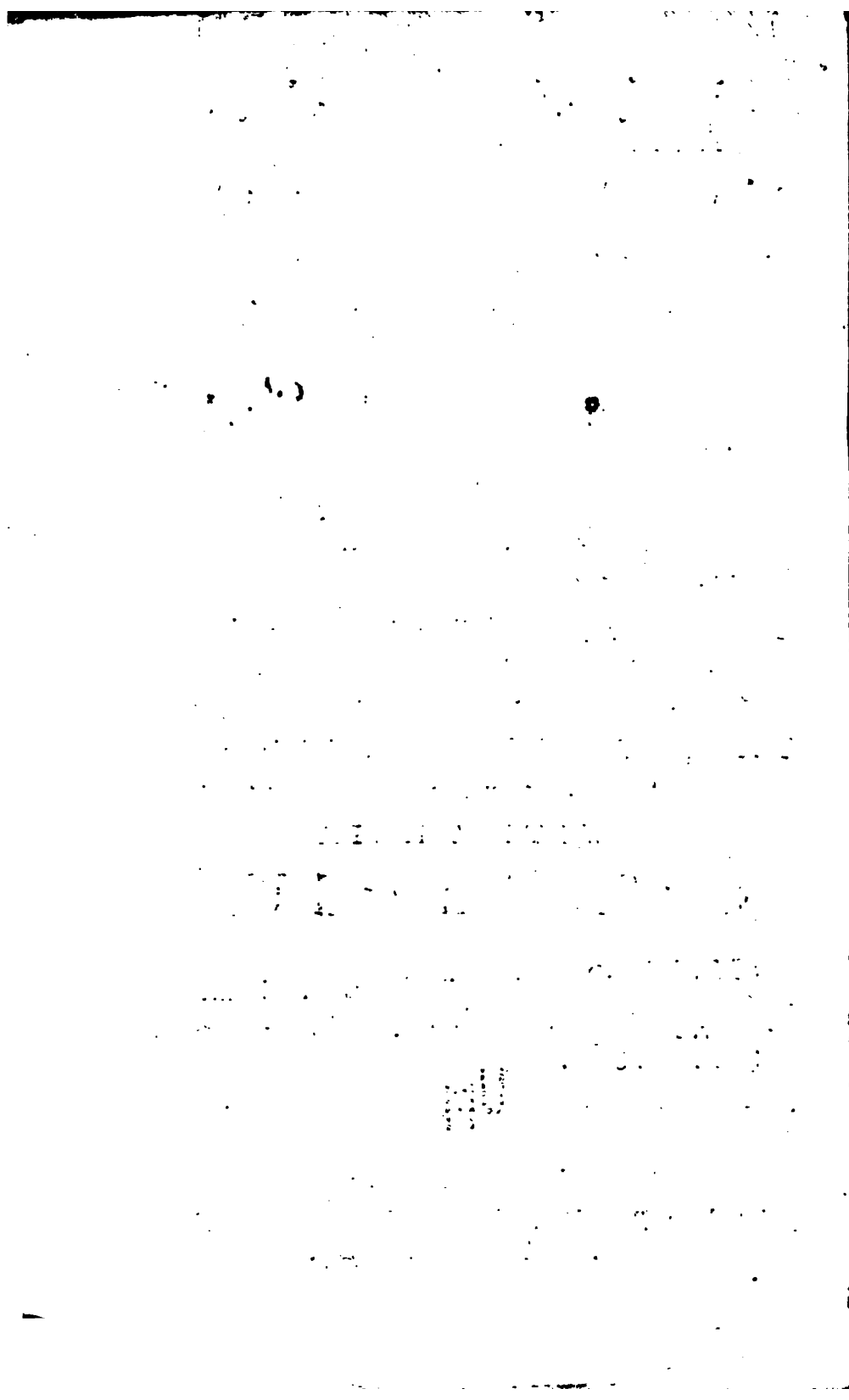
WITH THEIR

Construction and Use.

By { *Mr. Briggs,*
 Dr. Wallis, } *Savilian Professors of Geometry*
 Mr. Halley, } *the University of Oxford.*
 Mr. Abr. Sharp.

L O N D O N:

Printed for R. and W. Mount, and T. Page, in Postern-
Row, Tower-Hill. 1717.



Edmond Halley

To Mr. Edm. Halley, Savilian
Professor of Geometry, in the
University of Oxford.

S I R,

IT being universally acknowledged that by the Learned Professors of Geometry in the *Savilian Chair* (viz. Mr. Briggs, Dr. Wallis, and Your Self) the *Logarithmical Art* hath receiv'd its greatest Improvements, and the Use of those Numbers have by them been fully taught and divulged. 'Tis to You therefore, who succeed, and share equally with your Famous Predecessors in the same honourable Post^e (and in Memory of them) that I think my self bound in Justice to present these Collections.

Mr. Briggs, with excessive Patience, Calculated Thirty one *Chiliads* of these Decimal *Logarithms*, to Fourteen Places, also the *Sines*, *Tangents*, *Secants*, with the

The Dedication.

Logarithm Sines and Tangents, and shewed their Construction and Use; of which Dr. *Wallis* gives a particular Account in the Twelfth Chapter of his *Algebra*, which is our Introduction.

Then I return you your own Compendious and Facile Method of Constructing the *Logarithms*, with the Reverse of that Noble Problem: And indeed, setting aside what is Printed from Mr. *Briggs* above-mentioned, or Mr. *Abr. Sharp* (to whom the World is indebted for their Industry in this kind) the rest of the Discourses, both before and after the Tables, are either Written or Chosen by your self; therefore I expect your kind Acceptance, and remain,

Sir,

Tour very much Oblig'd

Humble Servant,

London, July 12. 1703.

Hen. Sherwin,

T H E

THE P R E F A C E.

WERE the Construction and Use of the following Tables known to every body, they should come forth into the World without any Introductory Discourse ; but as the Case stands, and that Knowledge is the share but of few, it may be proper to add something upon both those Heads : And what is here presented is Gathered from the most Celebrated Authors that have Improved those Subjects amongst our selves, viz. Mr. Briggs, Dr. Wallis and Mr. Halley, the Three Professors of Geometry in the Savilian Chair at Oxford : To lead the Reader on from the beginning, we give him the 12th Chapter of Dr. Wallis's Algebra, which treats of the Original of Logarithms, and gives a full History of their Progress. To this is subjoyn'd Mr. Halley's Compendious Method of making Logarithms, which proceeds abstractedly from the nature of Numbers without any regard to the Hyperbola ; from which is deduced for Practice the making of the Natural, and Mr. Briggs's : With the further Prosecution of the same Subject, generously Communicated by the ingenious and unwearied Mr. Abr. Sharp, with his Table of Logarithms to above fifty
Figures

The P R E F A C E.

Figures ; as also the Hyperbolick Logarithm of 10 to 80, and its Reciprocal, to 65. Then follows by the same Hand, the Construction of the Sines, Tangents and Secants ; with the whole Process of the Quadrature of the Circle to 72 Figures : Which Quadrature was invented, and here demonstrated, by the above-mentioned Mr. Halley.

To come to the principal Part of the Performance ; as to the Tables, we may venture to say (without Partiality) that we offer here a more compleat Set of them than can be found in any other Book now Extant, and doubt not, but upon careful Perusal, they will be found as Useful and Correct. The Method we observed in Printing the Logarithms is according to that Excellent Abbreviation of Dr. John Newton in his Trigonometria Britannica ; to which is added, the Difference between each Logarithm, and the proportional Parts, in the last Column of the same Page ; by which the Logarithm of any Number (& contra) under 10,000,000 may be readily found, without turning to any other Page.

The manner of placing the Tables of natural Sines, Tangents and Secants, and their Logarithms, is absolutely New, and very Advantagious ; for to each Logarithm in those Tables are placed the differences which are common to the Column of Logarithms on both sides : By which the Seconds may be easily found. And for that end, between them and the Table of Logarithms, is placed a small Table to convert Sexagesimals into Decimals, and contrarily.

The PREFACE.

The next and chief thing considerable in the Tables, is their Correctness ; and here we will give a particular Account of the Measures we took to make them so. As for the Table of Logarithms it was examined from 1 to 20000 and from 90000 to 101000 by Mr. Briggs's Arith. Logar. Printed at London 1624, and from 1 to 100,000 by Adrian Vlacq's Table, Printed at Gouda 1628. And to shew our Care herein, as well as for Publick Service, we here place a Table of the Errors we found (when Correcting our own) in Mr. Briggs's and Vlacq's above-mentioned Canons ; and because Vlacq's own Errata Table is found in few of his Books (insomuch that Dr. Newton's above-mentioned Canon is Printed with all his Errors) therefore we thought it necessary to give it here with our Additions. Where Note, that such of his Errors as we now found are marked with (a), and a single one in Mr. Briggs's with (b) ; and those which are Common to Mr. Briggs and Vlacq are marked with (B.)

Num.	Logar.	Num.	Logar.	Num.	Logar.	Num.	Logar.	Num.	Logar.
80	B 99870	5126	86018	9482	3.97689	15306	17090	45090	02353
169	67046	5194	19453	9706	02870	15843	74222	48376	a 4.99556
183	a 2.26245	5222	68675	9972	B 22698	16461	62149	49502	a 27458
238	69571	6197	149561	9973	B 58190	17509	B 13427	49717	a 49148
580	2.76342	6207	17454	10058	16313	17773	4.24976	49880	64448
590	2.77085	6257	3.79636	10061	B 11490	17780	17566	56359	a 32786
968	2.98587	6841	95504	10096	93419	19009	92707	17756	a 4.76159
1239	B 13064	6941	10444	10292	B 97775	19107	25036	60400	69386
1298	B 46925	6957	B 3.84242	10847	96402	19113	88598	61999	a 4.79238
1309	96466	7775	3.89070	10859	98331	19195	81165	62090	a 16598
1321	28176	7830	3.89376	11003	11130	20832	a 4.31873	65160	10756
1354	86643	8077	B 00829	11332	65658	24861	a 60621	66759	a 4.82450
1359	29567	8556	3.93227	11440	B 60245	28423	4.45266	67050	4.82639
1377	39403	8642	4.2620	11469	4.05952	33800	4.52891	73653	a 4.86719
1626	B 05413	8692	97176	11920	4.07627	36560	61871	74832	a 73526
2167	a 89112	8832	90604	11955	91805	38780	78047	78700	47324
2434	05739	9174	3.56255	12328	26257	39844	a 4.60036	80212	93451
2534	B 66105	9176	34049	12358	16320	39845	a 4.60037	95666	b 4.98075
2544	71070	9182	3.96293	13274	18133	40598	4.60850	97109	a 15926
3329	37952	9317	3.96927	14020	80136	41018	a 44807	97828	a 4.99046
3499	39425	9354	73656	14527	59365	41490	a 34348	99090	B 98184
4599	34096	9429	3.97446	14763	46198	42506	a 02379	99910	99910
4906	71429	9480	2.97680	14786	B 07019	44656	a 08101	100008	a 47422

The

The PREFACE:

The Tables of Natural Sines, Tangents and Secants were examined by those of Van Shooten, Printed at Amsterdam 1627 (which are said to be without one Fault) and Sir Jonas Moor's new System; the Tables of Logarithmick Sines, Tangents and Secants were examined by a Table of the said Vlacqs, in large Octavo, Printed at Goudæ 1626, as also by the said System. And in all these Examinations there were never less than Two to harken, whilst One read over the Printed Sheet to be Corrected. The Table of Versed Sines was Printed from, and examin'd by the System above-mentioned, they being to be found no where else that I know of.

The Travers Table is now Calculated to a larger Radius than any Extant, and was examined with the greatest Care.

After the Tables follow the various Uses of Logarithms made plain to the meanest Capacity; To which is added, the Solution of Plain and Spherical Trigonometry by Logarithms, from Mr. Briggs's English Edition of his Logarithmical Arithmetick; and the Use of the Versed Sines from Sir Jonas Moor's above-mentioned System.

The Demonstration of Compound Interest, with some Propositions of Navigation, were both of them bestowed by Mr. Halley, and revised by him; as were most of the Sheets of the whole Discourse: wherein he was pleased to make many advantageous Alterations, for which I return him my hearty Thanks.



ERRORS in the Discourses before the TABLES.

PAGE 24. line 11 and 12, for 4856939 read 4856935. p. 26. line 12, after Natural Log. insert [of 10.] p. 28 in Log. of 14 latter end, for 146624 r. 140624. p. 36. l. 40. at the latter end of the Log. of $\frac{1}{2}$ r. 62951. p. 41 l. 10. make the 29th Figure[0] instead of 6, viz. for 92363 r. 92303. p. 43. l. 2. for 1199.63392 r. 1199.63302. l. 23. r. 00005805287516. p. 47. l. 19. of the 2d. Table for 20622. r. 20922. in the Title of the 4th Table r. [Fractions.] p. 47. at the beginning of the last line insert [you have] p. 48. l. 8. r. prefix'd, l. 9. for [these two Tables] r. [the two first Tables] p. 48. l. 13. blot out [in]. p. 49. l. 22. [before the Characteristicks] insert [Note] and r. [Logarithms]. p. 51. l. 18. for [10 deg.] r. [10 min]. p. 41. l. 2. for [and] r. [8c.] p. 39. l. 9. for 3)6391. r. 3)6331. and. l. 17. for Z-X. r. Z+X.

After the Tables, Page 5. Line 16. for 5.7342957 Read 5.7342997.

O F L O G A R I T H M S, T H E I R Invention and Use.

*The XIIIth Chapter of that Excellent Treatise of Algebra;
Written by the late Reverend and Learned Dr. John Wallis,
Savilian Professor of Geometry in the University of Oxford;
and a Member of the Royal Society in London,*

Logarithms was first of all Invented (without any Example of any before him, that I know of) by *John Neper, Baron of Merchiston in Scotland*; and by him first Published at *Edinburgh*, in the Year 1614: And soon after by himself (with the Assistance of *Henry Briggs, Professor of Geometry, first at London in Gresham-Colledge, and afterwards at Oxford*) reduced to a better Form, and perfected.

The Invention was greedily embraced (and deservedly) by Learned Men.

Mr. *Briggs*, upon the first Publication of it, was so pleased with it, that he presently repaired into *Scotland*, to consult the Author, advise with him, and be assistant to him, in the perfecting of it, and in Calculating Tables for it; which was a Work of great Labour, as well as subtle Invention.

And it was imbraced and promoted abroad by *Benjamin Vrietus, John Kepler, Adrian Vlacq, Petrus Eragerus*, and others.

And at home, by *Henry Gellibrand*, who perfected the *Trigonometria Britannica*, which Mr. *Briggs* began, but died before it was perfected.

So that, in a short time, it became generally known, and greedily imbraced in all Parts, as of unspeakable Advantage; especially for Ease and Expedition in *Trigonometrical Calculations*.

2 *The 12th Chapter of Dr. Wallis's Algebra :*

The Foundation of it is this :

If to a Rank of Continual Proportionals in a Geometrical Progression from 1 : Suppose

1. 2. 4. 8. 16. 32. 64. &c.

We accommodate a Rank of Exponents in an Arithmetical progression, from 0 : Suppose

0. 1. 2. 3. 4. 5. 6. &c.

It is manifest, that for every Multiplication or Division of those Terms, one by another, there is an answerable Addition or Subduction of the Exponents.

For as (in the Terms) 4 Multiplied by 8 makes 32, so (in the Exponents) if to 2 we add 3, it makes 5; and as 32 divided by 8, gives 4: So if from 5 we Subtract 3, there remains 2: And so every where.

<i>Terms.</i>	1.	2.	4.	8.	16.	32.	64.
<i>Exponents.</i>	0.	1.	2.	3.	4.	5.	6.

$$4 \times 8 = 32.$$

$$2 + 3 = 5.$$

$$\frac{32}{8} = 4.$$

$$5 - 3 = 2.$$

And the same holds, if between any two of those Terms, interpose one or more Means Proportional; and between their Exponents, as many Arithmetical Means.

As if between 4 and 8 (or between 2 and 16) we interpose a Mean Proportional $\sqrt{32}$, that is $4\sqrt{2}$; and between 2 and 3 (or 1 and 4) an Arithmetical Mean, $2\frac{1}{2}$; then as $4\sqrt{2}$ by 8 makes $32\sqrt{2}$, (a Mean Proportional between 32 and 64:) So adding their Exponents $2\frac{1}{2}$ and 3, makes $5\frac{1}{2}$, an Arithmetical Mean between 5 and 6: And so every where.

And universally, (whatever be the Values of *r. c.*) supposing

The Terms, 1. *r.* *rr.* *rrr.* *r⁴.* *r⁵.* *r⁶.* &c.

Exponents, 0. 1. 2. 3. 4. 5. 6. &c.

Then, as $rr \times r^3 = r^5$, and $rr \sqrt{r} \times rrr = r^5 \sqrt{r}$;

So $2\frac{1}{2} + 3 = 5\frac{1}{2}$, and $2\frac{1}{2} + 3 = 5\frac{1}{2}$.

And so every where.

And consequently whatever Term we interpose between any of those Continual Proportionals; if we also interpose between their Exponents, a like Arithmetical Mean, as that is a Proportional Mean, (as if that be the First or Second of two Means Pro-

Of Logarithms, their Invention and Use. 3

Proportional, this accordingly the First or Second of two Means Arithmetical; if that the Second of Five Means Proportional, this the Second of as many Arithmetical Means, &c.) Then to every Addition or Subduction of these one with another, will answer a like Multiplication or Division of those.

And if for 0, 1, 2, 3, &c. (taking $e=1$) we put, 0, 1, 2, 3, &c.; then doth this Exponent always give us the Number of Ratios or Dimensions in the Term to which it belongs.

1.	r .	rr .	r^3 .	r^4 .	r^5 .	r^6 .	&c.
0.	1.	2.	3.	4.	5.	6.	&c.

(As 3 in r^3 , 6 in r^6 , and so every where) or shews, *How many fold (quam multiplicata) the Proportion (for Instance) of r^6 to 1, is of r to 1.* That is, how many Ratios or Proportions of r to 1, are compounded in r^6 to 1, to wit 6. To which the Name *Logarithmus* fitly answers; that is, $\lambda\omicron\gamma\alpha\mu\alpha\iota\phi\alpha\iota\mu\omicron\varsigma$, the *Number of Proportions so Compounded*.

Now this Foundation being laid, their Design in the Logarithms is this: Having selected (as most convenient) a Rank of Continual Proportionals, in a Decuple Progression; to wit,

1.	10.	100.	1000.	10000.	100000.	1000000.	&c.
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They fit hereunto (as their Exponents) in *Arithmetical Progression*;

0.	1.	2.	3.	4.	5.	6.	&c.
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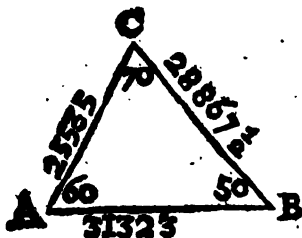
(And consequently, the Logarithm of any Fractions less than 1, is to be a Negative Number.) And then, for each of the Numbers interposed between 1 and 10; between 10 and 100; and so of the rest; (as 2, 3, 4, &c. 11, 12, 13, &c.) they seek out (between 0 and 1; between 1 and 2, &c.) an Exponent (to be expressed in Decimal Parts) which is such a Mean Arithmetical, as the other is a Mean Proportional.

And these Exponents they call *Logarithms*, which are Artificial Numbers, so answering to the Natural Numbers, as that the Addition and Subduction of these, answers to the Multiplication and Division of the Natural Numbers.

By this means, (the Tables being once made) the Work of Multiplication and Division is performed by Addition and Subduction; and consequently that of Squaring and Cubing, by Duplication and Triplation; and that of Extracting the Square and Cubick Root, by Bisection and Trisection; and the like in higher Powers.

Of these Logarithms we have Printed Tables, for all Numbers as far as *One Hundred Thousand*. So that, if any two Numbers (not exceeding 100,000) be proposed to be Multiplied or Divided one by the other, the Logarithms of those Numbers (to be found in those Printed Tables) being accordingly Added or Subducted, will give the Logarithm of that Natural Number (to be found by those Tables) which is the Product or Quotient of such Multiplication or Division. And the Double or Treble of such Logarithm, is the Logarithm of its Square or Cube. And the Half, or Third Part of it, is the Logarithm of its Quadratick or Cubick Root; and the like of Higher Powers, which in large Numbers, is matter of great Expedition.

And (because a main End of this Design, was to facilitate Astronomical and other Trigonometrical Calculations) beside those Logarithms for Numbers in their Natural Order, we have also Tables of Artificial or Logarithmical *Sines*, *Tangents*, and *Secants*; the Addition and Subduction of which, answers to the Multiplication and Division of the *Natural Sines*, *Tangents*, and *Secants*: Which is a very Compendious Advantage for Expediting such Calculations; and is not less accurate than the Operation by Tables of *Natural Sines*, *Tangents*, and *Secants*.



Thus in a plain Triangle; supposing the Angles given, A 60 Degrees, B 50 Degrees, (and consequently, C 70 Degrees) and the Side AB 31323 *Paces*: For finding the Sides AC, or AB, we have this Proportion:

As the Sine of C, 70 Degrees,	9396926
To the Sine of B, 50 Degrees,	7660444
So is the Side AB,	31323 <i>paces</i> .
To the Side AC,	25535 <i>paces</i> .

For finding which, we are to Multiply 7660444 by 31323, and then Divide by 9396926; which gives for the Side AC (almost) 25535 *paces*.

And, As the Sine of C, 70 Degrees	9396926
To the Sine of A, 60 Degrees,	8660254
So in the Side AB,	31323 <i>paces</i> .
To the Side BC,	28867 1/2 <i>paces</i> .

For finding which, we are to Multiply 8660254 by 31323, and

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§

and Divide by 9395926, which gives for the Side BC, 28867½ paces, *proxime*.

Now (to prevent these tedious Multiplications and Divisions) by Logarithms, we proceed thus;

Log. Sine C, 70 Degrees	—	9.9729858	Ar. Co. 0.0270142
Log. Sine B, 50 Degrees	+	9.8842540	9.8842540
Log. A B, Num. 31323	+	4.4958633	4.4958633
Log. A C, Num. 25535	+	4.4071315	4.4071315

Where Subtracting the First Logarithm from the Sum of the Second and Third, gives the Fourth; which (the Table tells us) answers to the Number 25535, *ferè*. So many Paces therefore is the Side A C. Again,

Log. Sine C, 70 Degrees,	—	9.9729858	Ar. Co. 0.0270142
Log. Sine A, 60 Degrees,	+	9.9375306	9.9375306
Log. A B, Num. 31323	+	4.4958633	4.4958633
Log. B C, Num. 28867½	+	4.4604081	4.4604081

Where Subtracting the first Logarithm, from the Sum of the Second and Third, gives the Fourth; which (the Table tells us) answers to the Number 28867½ *proxime*: So many Paces therefore is the Side B C; which Operations are much more Expeditious, than Multiplying and Dividing such large Numbers.

And in like manner, in Spherical Triangles, save that there all the Logarithms are to be taken out of the Tables of *Sines*, *Tangents*, and *Secants*; which, in this Example, are taken partly from thence, partly from the Table of Numbers; but the Expedition is alike in both.

This was first Published by the Lord *Neper* (the first Inventor of it) in the Year 1614, under the Title of *Mirificus Logarithmorum Canon*, with its Description and Use; but reserving the Manner of Construction, and its Demonstration, to be after Published: This being but an *Essay*, set forth, to see the Judgment of Learned Men concerning this Design, and how it was like to be received.

In this we have a Canon or Table of Natural and Logarithmical *Sines*, for each Degree and Minute of the Quadrant.

And whereas it was at his Choice to give to what Number he pleased the Logarithm 0, and whether to proceed by way of Increase or Decrease, he chose to make 0 the Logarithm of the whole Sine 10000000, that so the Multiplication or Division by the whole Sine (frequent in Trigonometrical Calculation) might be dispatched without trouble, requiring here but the Addition or Subduction of 0.

And

And because the Use of lesser Sines and Numbers, less than the Radius or whole Sine, were likely to be of more frequent Use, than of Tangents, Secants, and other Numbers greater than the Radius, he chose to give to those lesser Numbers Affirmative Logarithms (increasing the Logarithms from 0, as the Signs decrease) which he calls *Abundantes*: And consequently Negative Logarithms (which he calls *Defectives*) to greater Numbers. Designing those by +, these by —.

And by this means, he directs how this Table of Sines (with the Differences there inserted) may serve also for a Table of Tangents and of Secants; So that this Canon, is a Compleat Canon of Natural Sines, and of Logarithmical Sines, Tangents, and Secants.

He shews also how this Table may be applied to the Logarithms of Absolute Numbers; but because with some trouble, he reserves the fuller account hereof to a farther Treatise.

In the Year 1619, the Lord Neper being then dead, the same was again Published by his Son Robert Neper; with some Posthumous Treatises of his Father, concerning the Construction of this Logarithmical Canon, and concerning his Design (after Communication had with Mr. Briggs) of changing the Form of Logarithms, making 0 to be the Logarithm of 1; (of which he had before given notice in the Preface to his *Rabdologia*, Published in the Year 1617;) and concerning some things pertaining to Trigonometry; with some Lucubrations of Mr. Briggs's on the same Subject.

But the Lord Neper being dead, the whole Work was devolved on Mr. Briggs, who (according to their joint Advice) making the Logarithm of 1 to be 0, and of 10, 100, 1000, &c. to be 1, 2, 3, &c. which he calls *Indices*, or *Characteristicks*, and which we may repute as *Integer* Numbers, with Fourteen Ciphers annexed, which we may repute as so many places of Decimal Fractions, below the place of Units, or of the Characteristick: And between these he fits the Intermediate Logarithms for the Intermediate Numbers.

And consequently, the Logarithm of 1 being 0, the Logarithm of Fractions less than 1, or of Numbers intermediate between 1 and 0, must be Negative Numbers, or Numbers less than 0, (which he calls Defective Logarithms, denoted by — (the Note of Negation) prefixed.

Now these Defective Logarithms may be two ways expressed; either so as that the Note of Negation shall affect the whole Logarithm, or so as to affect only the Characteristick, (leaving the rest of the Logarithm to be understood as Affirmative.)

As for Example, The Fraction $\frac{1}{3}$, or (which is equivalent) 0.375. This Fraction supposeth the Numerator 3 to be Divided by

by the Denominator 8, which in Logarithms is to be performed by Subtracting the Logarithm of 8, from that of 3, and the Remainder will be the Logarithm of $\frac{3}{8}$, which will them be the Negative Number, —0.4259687.

Log. 3.	0.4771213
Log. 8.	0.9030900
Log. $\frac{3}{8}$.	—0.4259687

Or thus; for, as much as the Logarithm of 375, (supposing it to be an Integer Number) is 2.5740313. And the depressing this to the First, Second, or Third, or further place of Decimal Fraction, doth (without altering the Figures) divide the Value by 10, 100, 1000, &c. which in Logarithms is done by Subtracting 1, 2, 3, &c. from the Characteristick, or place of Integers, (1, 2, 3, &c. in that place, being the Logarithms of 10, 100, 1000, &c.) Such Alteration of the Value (the Figures remaining) is done by altering the Characteristick of the Logarithm, without varying the other Figures, in this manner.

Log. 3750	3.5740313
Log. 375	2.5740313
Log. 37½	1.5740313
Log. 3¼	0.5740313
Log. 0|375	1.5740313
Log. 0|0375	2.5740313

Which two Forms, tho' they seem different, and some may rather choose the one, some the other; or in some Cases the one, and in some Cases the other; yet they are in Substance or Value the same. For

$$\begin{array}{r} -1.0000000 \\ +0.5740313 \\ \hline \text{is} = -0.4259687 \end{array}$$

And every one is left to his liberty, whether of the two ways (or what other equivalent thereunto) he shall please to use.

In this Method Mr. Briggs hath calculated a Table of Logarithms, (Published in the Year 1624) for 20 Chiliads of Absolute Numbers, (from 1 to 20,000;) and again for 10 more (from 90,000, to 100,000,) and one Chiliad Supernumerary (to wit, the Hundred and First Chiliad) that is 31 Chiliads in all.

Before which is prefixed, a large Account of the Nature and Construction of this Logarithmical Canon, and the Uses thereof; and Direction how to Supply the intermediate Chiliads, which are here wanting. The whole Intituled, *Arithmetica Logarithmica*.

The same was again Published in 1628, by Adrian Vlacq (or Flack,) with a Supplement (as Mr. Briggs directed) of the Chiliads before omitted; that is, in all, of 100 Chiliads, with one Supernumerary. But in shorter Number, extended but to 10 places below that of the Integers, or the Characteristick. And he subjoins also a Logarithmical Canon of Sines, Tangents, and Secants,

2 *The 12th Chapter of Dr. Wallis's Algebra :*

Secants, (for Degrees and Minutes of the Quadrant.) of as many places.

Mr. *Briggs* proceeded to Calculate a Trigonometrical Canon Logarithmical, suited to that for Absolute Numbers, to the Logarithms, extending (as in that other) to 14 places, beside the Characteristick. And having before Calculated a Table of *Natural Sines, Tangents, and Secants*, (for Degrees and Centesimes of Degrees) in Numbers extending to 15 places, he fitted thereunto a Canon of *Logarithmical Sines and Tangents*, (because those of *Secants* might be spared;) and a Treatise prefixed, concerning the Construction thereof, with other things pertinent thereunto; intending a farther Treatise concerning the Use of it.

But dying before this last was finished, or the rest published, Mr. *Henry Gellibrand* supplied this latter, and Published the whole, with the Title of *Trigonometria Britannica*, in the Year 1633, To which is subjoined another Canon of *Logarithmical Sines and Tangents*, by *Adrian Flacq*, for Degrees, Minutes, and Tenth Seconds, extending (as his former did) to 10 places, beside the Characteristick; and Mr. *Briggs's* 20 Chiliads for Logarithms of Absolute Numbers.

So that the whole Doctrine of Logarithms was by this time sufficiently perfected, with convenient Canons or Tables fitted thereunto, in large Numbers: Of which also *Petrus Crugerus* gives an Account in the Preface to his *Trigonometria Logarithmica*, Printed in the Year 1634; with his Logarithmical Tables, but in shorter Numbers.

And the Tables of Logarithms above mentioned, (for 100 Chiliads of Absolute Numbers, and for Sines and Tangents to Degrees and Centesimes) were the same Year 1633, contracted into a Lesser Form, and more Manageable (but in shorter Numbers, the former not extending to above 7 places, beside the Characteristick, but the latter to 10) by *Nathaniel Roe*; with Directions for the Use of them (in Trigonometry, Geometry, Astronomy, Geography, and Navigation) by *Edmund Wingate*.

In the mean time, *Benjamin Ursinus* did also publish Tables of Logarithms, in the Year 1618; and again in the Year 1625, in his *Trigonometria*; and *Johannes Keplerus* also in the Year 1624, in his *Chilias Logarithmorum* (which he applies also to his *Rudolphine Tables*, published in 1627;) and *Claudius Barsechini* about the same time, or soon after: And *Georgius Ludovicus Frobenius*, in the Year 1634, (and perhaps some others.) But all or most of them, in short Numbers; and conformable to the Lord *Neper's* first Design; not to that Form which, upon second Thoughts, he and Mr. *Briggs* agreed upon as most Eligible, and which hath since been received in common practise,

Since

Since which time, much hath not been added to the Doctrine of Logarithms; nor was it necessary, that Work having obtained sufficient perfection.

But in case Logarithms, on any emergent occasion, be desirable with greater Exactness, and in larger Numbers than those Printed Tables do afford: Mr. *Nicolas Mercator*, in a small Treatise called *Logarithmotechnia*, Printed in the Year 1668, shews (with great subtilty) how it may be effected, in Numbers of whatever length desirable, with much more ease than heretofore.

Those that would see more of the Construction and Use of Logarithms, may consult the fore-mentioned Authors, especially *Brigg's Arithmetica Logarithmica*, and the *Trigonometria Britannica* of *Briggs* and *Gellibrand*; as also, what *Adrian Vlacq* and *Peter Crugerus* have writ upon this Subject.

But one thing yet seems to be wanting to the more compleat Management of the *Logarithmical Canon*: For tho' there be a Canon of Logarithms for *Natural Numbers*, beginning from 1 to 100,000, so that the Logarithm may be had by the bare Inspection of the Canon; yet it is not alike ease to find the Number agreeing to a Logarithm given; but the nearest Logarithms on both sides being found, they are to be Corrected by the *Parts Proportional*, that so there may be found some Intermediate Number that may agree to the Logarithm given: To prevent which Inconvenience, there seems to be necessary an *Anti-Logarithmick Canon*; in which, the Logarithms being placed down in order, from 1 to 100,000, the *Natural Numbers*, answering to them, should be placed by them: So that by this Canon we might find the Number for any Logarithm, with the same Ease that we find the Logarithm for any Number by the Canon that we have.

Note, That which follows, not being in Dr. Wallis's English Edition, but continu'd in the 12th Chap. of his Latin one, is from thence done into English By Mr. Dittou.

And indeed, such a Canon hath been Constructed for many Years, but never yet made Publick. I don't know whether Mr. *Thomas Harriot* began that Canon, or no; but Mr. *Walter Warner* had his Papers, and from them put forth his *Algebrae A. D.* 1631, and gave hopes of Publishing many things more. And the same *Warner* did, not long after, finish the said Canon (if at least he did not first begin it) and made it ready for the Press; and all this, I believe, about Fifty Years ago, if not more.

And this I was told lately by Dr. *John Pell*; who was intimately acquainted with Mr. *Warner*, and had assisted him in the Calculation. I remember also, that I saw that Work (and did but see it) among other Papers of Mr. *Harriot* or *Warner*, and that

to *The 12th Chapter of Dr. Wallis's Algebra :*

that now almost Thirty Years ago: What became of them after, I knew not, till I heard lately from Dr. *Pell*, that they were in the Hands of the Celebrated Dr. *Richard Busbey*, Master of *Westminster* School for many Years, and now very Old; who also gave me hopes of its coming forth in a little while, by the Care of Dr. *Pell*, if at least (to which I yielded without much difficulty) I would succeed Dr. *Pell* in that Care; if he should happen to die before the Work was finished: But Dr. *Pell* is dead, and that very Old, he dying about the Year 1685, the Edition of that Work being not so much as begun. And I fear, lest (Dr. *Busbey* dying also) this thing be quite lost; especially since there is none that will be willing to be at the Expence of the Edition.

As to the Use of Logarithms, altho' they were invented chiefly to facilitate *Trigonometrical Calculations*; yet they are of Use, where-ever there is any occasion for Multiplication or Division.

Thus in the Business of *Anatocism*, or *Compound Interest*, *Ex. Gr.* At the Rate of 6 in 100, for one Year. For then it will be, as 100 to 106, or as 1 to 1.06, that is to 1.06: So is the *Principal*, to the *Principal*, increas'd by the Interest for one Year. And consequently the *Principal* is to be Multiplied by 1.06, for the first Year; and the Product of this must be Multiplied by 1.06, for the second Year; and so on, according to the Number of Years, that the Sum may be found that rises at the end of so many Years. Instead of which continued Multiplications, the Matter proceeds thus by Logarithms: To the Log. of the *Principal*, add so many times the Log. of 1.06, as is the Number of Years; this gives the Log. of the Sum, arising after that Term of Years; and the Absolute Number answering to this Log. is the Sum desired.

Ex. Gr. Let the *Principal* be 15*l.* 17*s.* 6*d.* *English* Coin, that is (in Decimal Parts) 15.875*l.* and let the Interest be at the Rate of 6 in the 100, for one Year, and to be continued in that same Proportion for 12 Years; Therefore the Number 15.875, is to be continually Multiplied by 1.06 twelve times; from whence arises 31.94362*l.* that is 31*l.* 18*s.* 10½*d.* nearly.

Now

0	15	875	
		95250	
1	16	82750	
		100965	
2	17	83715	
		1070229	
3	18	907379	
		11344427	+
4	20	0418217	+
		12025093	+
5	21	2443310	+
		12746599	—
6	22	5189909	+
		13511395	—
7	23	8701304	—
		14322078	+
8	25	3023382	—
		15181403	—
9	26	8204785	—
		16092287	+
10	28	4297072	—
		17057824	+
11	30	1354896	+
		18081294	—
12	31	9436190	—

Now the same is more expeditiously done by the Logarithms;
 The Num. 1.06, expressing the Rate of Interest, its Log. is 0.0253058
 This Multiplied twelve times, according to the } 0.3036696
 Number of Years, is _____
 The Log. of 15.875 (the Principal) is _____ 1.2007137
 Both these added together, make the Logarithm 1.5043833
 To which answers the Absolute Number 31.94362,
 that is 31 l. 18 s. 10 d. nearly, as before.

Contrarywise, if giving the Time and Rate of Interest (as be-
 fore) together with the Sum arising, viz. 31.94362, it be enquired
 from what Principal this must arise.

Then the Log. of the Sum arising is _____ 1.5043833
 From whence Subtract twelve times the Log. of } 0.3036696
 1.06, which is _____

And there Remains the Log. of the Principal de- } 1.2007137
 sired, viz. 15.876, whose Log. is _____

But then, if from the fore-mentioned Log. of the } 1.5043833
 Sum arising, viz. 31.94362, which is _____

We Subtract the Log. of the Principal, which is 1.2007137.
 Then the Remainder, which is _____ 0.3036696

Divided by 12 (the Number of Years) will bring 0.0253058
 Which is the Log. of 1.06, the Rate of Interest.

Also, the said Remainder, which is _____ 0.3036696
 Divided by the Log. of the Interest, which is _____ 0.0253058

Will give 12 in the Quotient, which is the Num-
 ber of Years, in which such a Sum wou'd arise, from such a
 Principal, according to such a Rate of Interest.

And after the same manner (*mutatis mutandis*) may other Que-
 stions, relating to *Anatocism*, be solv'd; such as *Oughred* has
 succinctly propos'd in the Additions to his *Clavis*.

Likewise thus may one proceed in that known Question, about
 the continual doubling of an Unite; which uses to be propos'd
 concerning a Horse which should be Sold according to the Num-
 ber of Nails in his Shoes. For setting the first Nail at a very
 Inconsiderable Price, and the second at double the Price of the
 first, and the third at double the Price of the second; and so
 going on, continually doubling for every Nail; We shall come
 at last to a vastly great Sum.

The first Occasion of which Question, I believe to be what I
 have cited, Cap. 31. of my *Opus Arithmeticum*, from *Alsephad* (an
Arabick Writer) in his *Commentaries* upon *Tograins*'s Verses:
 Namely, That one *Sessa* an *Indian* having first found out the Game
 at *Cheffe*, and shew'd it to his Prince *Shehram*: The King, who
 was highly pleas'd with it, bid him ask what he would for the

Reward of his Invention; whereupon he ask'd, That for the first little Square of the Chess-board, he might have one Grain of Wheat given him; for the second, two; and so on doubling continually, according to the Number of Squares in the Chess-board, which was 64. And when the King, who intended to give a very Noble Reward, was much displeas'd, that he had ask'd so trifling a one; *Seffs* declar'd, That he would be contented with this small one. So the Reward he had fix'd upon, was order'd to be given him: But the King was quickly Astonish'd, when he found that this would rise to so vast a Quantity, that the whole Earth it self could not furnish out so much Wheat. But how great the Number of these Grains is, may be found by doubling one continually 63 times, so that we may get the Number that comes in the last place; and then one time more yet, to have the Sum of all. For the double of the last Term (less by one) is the Sum of all. Now this will be more Expeditionally done by Logarithms, and Accurately enough too for this purpose. For if to the Log. of 1, which is 0, we add the Log. of 2 (which is 0.3010300) Multiplied by 64; that is 19.2659200; the Absolute Number agreeing to this, will be greater than 18446.00000.00000.00000, and less than 18447.00000.00000.00000

Philosophical Transaction, Number 216.

A Most Compendious and Facile METHOD

F O R

Constructing the Logarithms,

Exemplified and Demonstrated

From the NATURE of NUMBERS,

Without any Regard to the *Hyperbola* :

With a Speedy METHOD for Finding the NUMBER
from the LOGARITHM given.

By Mr. Edm. Halley, *Present Savilian Professor of Geometry
in the University of Oxford; and Fellow of the Royal
Society in London.*

THE Invention of the *Logarithms* is justly esteemed one of the most Useful Discoveries in the Art of Numbers, and accordingly has had an Universal Reception and Applause: And the great *Geometricians* of this Age have not been wanting to Cultivate this Subject with all the Accuracy and Subtily a Matter of that Consequence doth require; and they have demonstrated several very Admirable Properties of these *Artificial Numbers*, which have render'd their Construction much more Facile, than by those operose Methods, at first used by their truly Noble Inventer, the Lord *Nepair*; and our worthy Country-Man, Mr. *Briggs*.

But notwithstanding all their Endeavours, I find very few of those, who make constant Use of *Logarithms*, to have attained an Adequate Notion of them; to know how to Make or Examine them, or to understand the Extent of the Use of them: Contenting themselves with the Tables of them, as they find them, without daring to Question them, or caring to know how to Rectifie them, should they be found amiss; being, I suppose, under the Apprehension of some great Difficulty therein. For the sake of such, the following Tract is principally intended; but

but not without hopes, however, to produce something that may be acceptable to the most knowing in these matters.

But first, it may be requisite to premise a Definition of *Logarithms*, in order to render the ensuing Discourse more clear; the rather, because the old one, *Numerorum proportionalium æque differentes comites*, seems too scanty to define them fully. They may much more properly be said to be *Numeri Rationem Exponentes*: Wherein we consider *Ratio* as a *Quantitas sui generis*, beginning from the *Ratio* of Equality, or 1 to 1 = 0; being Affirmative, when the *Ratio* is increasing, as of Unity to a greater Number; but Negative, when decreasing: And these *Rationes* we suppose to be measured by the Number of *Ratiuncula*, contained in each. Now these *Ratiuncula* are so to be understood, as in a continued Scale of Proportions, infinite in Number between the two Terms of the *Ratio*; which infinite Number of Mean Proportionals is to that infinite Number of the like and equal *Ratiuncula* between any other two Terms, as the Logarithm of the one *Ratio* is to the Logarithm of the other. Thus if there be supposed between 1 and 10 an infinite Scale of Mean Proportionals, whose Number is 100000 &c. in infinitum; between 1 and 2 there shall be 30102 &c. of such Proportionals, and between 1 and 3 there will be 47712 &c. of them; which Numbers therefore are the Logarithms of the *Rationes* of 1 to 10, 1 to 2, and 1 to 3; and not so properly to be called the Logarithms of 10, 2, and 3.

But if instead of supposing the Logarithms composed of a Number of equal *Ratiuncula*, proportional to each *Ratio*; we shall take the *Ratio* of Unity to any Number, to consist always of the same infinite Number of *Ratiuncula*, their Magnitudes in this case, will be as their Number in the former. Wherefore if between Unity and any Number propos'd, there be taken any Infinity of Mean Proportionals, the infinitely little Augment or Decrement of the first of those Means from Unity, will be a *Ratiuncula*, that is, the *Momentum* or *Fluxion* of the *Ratio* of Unity to the said Number: And seeing that in these continual Proportionals all the *Ratiuncula* are equal, their Sum, or the whole *Ratio*, will be as the said *Momentum* is directly; that is, the Logarithm of each *Ratio* will be as the *Fluxion* thereof. Wherefore, if the Root of any Infinite Power be extracted out of any Number, the *Differentiâ* of the said Root from Unity, shall be as the Logarithm of that Number. So that Logarithms, thus produced, may be of as many Forms as you please, to assume infinite *Indices* of the Power whose Root you seek: As if the *Index* be supposed 100000 &c. infinitely, the Roots shall be the Logarithms invented by the Lord *Neper*; but if the said *Index* were 2302585 &c. Mr. *Briggs's* Logarithms would immediately be produced. And if you please

to stop at any Number of Figures, and not to continue them on, it will suffice to assume an *Index* of a Figure or two more than your intended Logarithm is to have; as Mr. Briggs did; who, to have his Logarithms true to 14 places, by continual Extraction of the Square Root, at last came to have the Root of the 140737488355328th Power; but how operose that Extraction was, will be easily judged by who so shall undertake to Examine his *Calculus*.

Now, tho' the Notion of an Infinite Power may seem very strange, and (to those that know the Difficulty of the Extraction of the Roots of High Powers) perhaps impracticable; yet by the help of that Admirable Invention of Mr. Newton, whereby he determines the *Uncia*, or Numbers prefix'd to the Members composing Powers (on which chiefly depends the Doctrine of *Series*) the Infinity of the *Index* contributes to render the expression much more easie: For if the Infinite Power to be Resolved be put (after Mr. Newton's Method)

$$\frac{p+p q}{1-3 m+2 m m} q^3 + \frac{p+p q}{1-6 m+11 m m-6 m^3} q^4 \text{ \&c. (which is the Root}$$

when m is finite) becomes $1 + \frac{1}{m} q - \frac{1}{2 m} q q + \frac{1}{3 m} q^3 + \frac{1}{4 m} q^4 + \frac{1}{5 m} q^5$ &c. $m m$ being infinite, and consequently whatever is divided thereby vanishing. Hence it follows, that $\frac{1}{m}$ Multiplied

into $q - \frac{1}{2} q q + \frac{1}{3} q q q - \frac{1}{4} q^4 + \frac{1}{5} q^5$ &c. is the Augment of the first of our Mean Proportionals between Unity and $1 + q$, and is therefore the Logarithm of the *Ratio* of 1 to $1 + q$; and whereas the Infinite Index m may be taken at pleasure, the several

Scales of Logarithms to such *Indices*, will be as $\frac{1}{m}$ or Reciprocally as the *Indices*. And if the *Index* be taken 10000 &c. as in the case of *Neper's* Logarithms, they will be simply $q - \frac{1}{2} q q + \frac{1}{3} q q q - \frac{1}{4} q^4 + \frac{1}{5} q^5 - \frac{1}{6} q^6$ &c.

Again, if the Logarithm of a decreasing *Ratio* be sought, the Infinite Root of $1 - q$, or $\frac{1}{1-q}$ is $1 - \frac{1}{m} q + \frac{1}{2 m} q^2 - \frac{1}{3 m} q^3 + \frac{1}{4 m} q^4 - \frac{1}{5 m} q^5 + \frac{1}{6 m} q^6$ &c. whence the Decrement of the first of our Infinite Number of Proportionals will be $\frac{1}{m}$ into $q + \frac{1}{2} q q + \frac{1}{3} q^3 + \frac{1}{4} q^4 + \frac{1}{5} q^5 + \frac{1}{6} q^6$ &c. which therefore will be as the Logarithm of the *Ratio* of Unity to $1 - q$. But if m be put 10000 &c. then the said Logarithm will be $q + \frac{1}{2} q q + \frac{1}{3} q^3 + \frac{1}{4} q^4 + \frac{1}{5} q^5 + \frac{1}{6} q^6$ &c. Hence

Hence the Terms of any *Ratio* being a and b , q becomes $\frac{b-a}{a}$ or the Difference divided by the lesser Term, when 'tis an increasing *Ratio*; or $\frac{b-a}{b}$ when 'tis decreasing, or as b to a .

Whence the Logarithm of the same *Ratio* may be doubly exprest, for putting x for the Difference of the Terms a and b , it will be either

$$\frac{1}{m} \text{ into } \frac{x}{b} + \frac{x^2}{2bb} + \frac{x^3}{3b^2} + \frac{x^4}{4b^3} + \frac{x^5}{5b^4} + \frac{x^6}{6b^5} \&c. \text{ or}$$

$$\frac{1}{m} \text{ into } \frac{x}{a} - \frac{x^2}{2aa} + \frac{x^3}{3a^2} - \frac{x^4}{4a^3} + \frac{x^5}{5a^4} - \frac{x^6}{6a^5} \&c.$$

But if the *Ratio* of a to b be supposed divided into two parts, viz. into the *Ratio* of a to the Arithmetical Mean between the Terms, and the *Ratio* of the said Arithmetical Mean to the other Term b , then will the Sum of the Logarithms of those two *Rationes* be the Logarithm of the *Ratio* of a to b ; and substituting $\frac{1}{2}x$, instead of $\frac{1}{2}a + \frac{1}{2}b$, the said Arithmetical Mean, the Logarithms of those *Rationes* will be, by the foregoing Rule,

$$\frac{1}{m} \text{ in } \frac{x}{z} + \frac{xx}{2zz} + \frac{x^3}{3z^2} + \frac{x^4}{4z^3} + \frac{x^5}{5z^4} + \frac{x^6}{6z^5} \&c. \text{ and}$$

$$\frac{1}{m} \text{ in } \frac{x}{z} - \frac{xx}{2zz} + \frac{x^3}{3z^2} - \frac{x^4}{4z^3} + \frac{x^5}{5z^4} - \frac{x^6}{6z^5} \&c.$$

the Sum $\frac{1}{m} \text{ in } \frac{2x}{z} * + \frac{2x^3}{3z^2} * + \frac{2x^5}{5z^4} * \frac{2x^7}{7z^6} \&c.$ will be the

Logarithm of the *Ratio* of a to b , whose Difference is x , and Sum z . And this *Series* converges twice as swift as the former, and therefore is more proper for the Practice of making of Logarithms: Which it performs with that Expedition, that where x the Difference is but the Hundredth Part of the Sum, the first step $\frac{2x}{z}$ suffices to Seven Places of the Logarithm, and the second step to Twelve. But if *Brigg's* first Twenty Chiliads of Logarithms be supposed made, as he has very carefully computed them, to Fourteen Places, the first step alone is capable to give the Logarithm of any intermediate Number true to all the places of those Tables.

After the same manner may the Difference of the said two Logarithms be very fitly applied to find the Logarithms of Prime Numbers, having the Logarithms of the two next Numbers above and below them: For the Difference of the *Ratio* of a to $\frac{1}{2}z$, and of $\frac{1}{2}z$ to b , is the *Ratio* of ab to $\frac{1}{4}zz$, and the half of that *Ratio* is that of \sqrt{ab} to $\frac{1}{2}z$, or of the Geometrical Mean to the Arithmetical.

Arithmetical. And consequently the Logarithm thereof will be the Half Difference of the Logarithms of those *Rationes*, viz.

$$\frac{1}{m} \text{ into } \frac{x^2}{2xz} + \frac{x^4}{4z^3} + \frac{x^6}{6z^5} + \frac{x^8}{8z^7} \text{ \&c.}$$

Which is a *Theorem* of good dispatch to find the Logarithm of $\frac{1}{2}x$. But the same is yet much more advantageously perform'd by a Rule derived from the foregoing; and beyond which, in my Opinion, nothing better can be hoped. For the Ratio of a to $\frac{1}{2}x$, or $\frac{1}{2}aa + \frac{1}{2}ab + \frac{1}{2}bb$, has the Difference of its Terms $\frac{1}{2}aa - \frac{1}{2}ab + \frac{1}{2}bb$, or the Square of $\frac{1}{2}a - \frac{1}{2}b = \frac{1}{2}xx$, which in the present Case of finding the Logarithms of Prime Numbers, is always Unity; and calling the Sum of the Terms $\frac{1}{2}xx + ab = yy$, the Logarithm of the Ratio of \sqrt{ab} to $\frac{1}{2}a + \frac{1}{2}b$ or $\frac{1}{2}x$ will be found

$$\frac{1}{m} \text{ in } \frac{1}{yy} + \frac{1}{3y^3} + \frac{1}{5y^5} + \frac{1}{7y^7} + \frac{1}{9y^9} \text{ \&c.}$$

Which converges very much faster than any *Theorem* hitherto Published for this purpose.

Here note, that $\frac{1}{m}$ is all along applied to adapt these Rules to all sorts of Logarithms. If m be 10000 &c. it may be neglected, and you will have *Nepair's* Logarithms, as was hinted before; but if you desire *Brigg's* Logarithms, which are now generally received, you must Divide your Series by

2.30258.50919.94045.68401.79914.54684.36420.76011.01488.62877.29760.33328

Or Multiply it by the Reciprocal thereof viz.

0.43429.44819.03251.82765.11289.18916.60508.22943.97005.80366.65662.14454

But to save so operose a Multiplication (which is more than all the rest of the Work) it is expedient to Divide this Multiplier by the Powers of x or y continually, according to the direction of the *Theorem*, especially where x is small and Integer, reserving the proper Quotes to be added together, when you have produced your Logarithm to as many Figures as you desire, of which Method I will give a Specimen.

If the Curiosity of any Gentleman, that has leisure, would prompt him to undertake to do the Logarithms of all Prime Numbers under 100000 to 25 or 30 Figures, I dare assure him that the Facility of this Method will invite him thereto; nor can any thing more easie be desired. And to encourage him, I here give the Logarithms of the first Prime Numbers, under 200 to sixty places, computed by the accurate Pen of Mr. *Abraham Sharp*, (from whose Industry and Capacity the World may in time expect great Performances) as they were communicated to me by our common Friend, Mr. *Euclid Speidall*.

Num.

Logarithm.

2	0.30162999566398119521.37388.94724.49302.67681.89881.46210.85413.10427
3	0.47712125471966243729.50279.02255.11530.92001.28864.19069.58648.29866
7	0.8450980400.14256.83071.22162.58592.63619.34835.72396.32396.54065.23635
11	1.04139.26851.58225.04075.01999.71243.02424.17067.02190.46645.30945.96539
13	1.11394.33523.06836.76920.65051.57942.32843.08297.29188.38706.82718.01191
17	1.23044.89213.78173.92854.01698.94328.33703.00075.67378.42504.63973.80368
19	1.27875.38009.12328.96153.63334.75756.92931.79511.29337.59449.75989.00819

The next Prime Number is 23, which I will take for an Example of the foregoing Doctrine; and by the first Rules, the Logarithm of the *Ratio* of 22 to 23 will be found to be either

$$\frac{1}{22} - \frac{1}{968} + \frac{1}{31944} - \frac{1}{937024} + \frac{1}{25768160} \&c. \text{ or}$$

$$\frac{1}{23} + \frac{1}{1058} + \frac{1}{36501} + \frac{1}{1119364} + \frac{1}{32181715} \&c.$$

As likewise that of the *Ratio* of 23 to 24, by a like Process.

$$\frac{1}{23} - \frac{1}{1058} + \frac{1}{36501} - \frac{1}{1119364} + \frac{1}{32181715} \&c. \text{ or}$$

$$\frac{1}{24} + \frac{1}{1152} + \frac{1}{41472} + \frac{1}{1327104} + \frac{1}{39813120} \&c.$$

And this is the Result of the Doctrine of *Mercator*, as improved by the Learned Dr. *Wallis*. But by the second Theorem,

viz. $\frac{2x}{x} + \frac{2x^2}{3x^2} + \frac{2x^3}{5x^2} \&c.$ The same Logarithms are obtained by fewer steps: To wit,

$$\frac{2}{45} + \frac{2}{273375} + \frac{2}{922640625} + \frac{2}{2615686171875} \&c. \text{ and}$$

$$\frac{2}{47} + \frac{2}{311469} + \frac{2}{1146725035} + \frac{2}{3546361843241} \&c.$$

Which was invented and demonstrated in the Hyperbolick Spaces, Analogous to the Logarithms, by the Excellent Mr. *James Gregory*, in his *Exercitationes Geometricae*, and since further prosecuted by the aforesaid Mr. *Speidall*, in a late Treatise in *English* by him published on this Subject. But the Demonstration, as I conceive, was never till now perfected, without the Consideration of the *Hyperbola*, which, in a matter purely Arithmetical, as this is, cannot so properly be applied. But what follows, I think, I may more justly claim as my own, *viz.* That the Logarithm of the *Ratio* of the Geometrical Mean to the Arithmetical, between 22 and 24, or of $\sqrt{528}$ to 23, will be found to be either

$$\frac{1}{1058} + \frac{1}{1119364} + \frac{1}{888215334} + \frac{1}{626487882248} \&c. \text{ or}$$

$$\frac{1}{1057} + \frac{1}{3542796579} + \frac{1}{659676558485285} \&c.$$

All these *Series* being to be multiplied into 0.4342944819 &c. if you design to make the Logarithm of *Briggs*. But with great Advantage, in respect of the Work, the said 4342944819 &c. is divided by 1057, and the Quotient thereof again divided by three times the Square of 1057, and that Quotient again by $\frac{1}{4}$ of that Square, and that Quotient by $\frac{1}{7}$ thereof, and so forth, till you have as many Figures of your Logarithm as you desire. As for Example, The Logarithm of the Geometrical Mean between 22 and 24, is found by the Logarithms of 2, 3 and 11 to be

	1057)43429 &c.(	1.36131696126690612945009172669805
3	in 1117249)41087 &c.(	41087462810146814347315886368
4	in 1117249)12258 &c.(	12258521544181829460074
5	in 1117249)65832 &c.(	6583235184376175
7	in 1117249)42088 &c.(	4208829765
	Summa	2920
		1.36172783601759287886777711225117

Which is the Logarithm of 23 to thirty two places, and obtained by five Divisions, with very small Divisors; all which is much less Work, than simply multiplying the *Series* into the said Multiplier 43429 &c.

Before I pass on to the Converse of this Problem, or to shew how to find the Number appertaining to a Logarithm assigned, it will be requisite to advertise the Reader, that there is a small Mistake in the afore said Mr. *James Gregory's Vera Quadratura Circuli & Hyperbolæ*, published at Padua, Anno 1667, wherein he applies his *Quadrature* of the *Hyperbola* to the making the Logarithms: In page 48, he gives the Computation of the Lord *Nepair's* Logarithm of 10, to five and twenty places, and finds it 2302585092994045624017870, instead of 2302585092994045684617991; erring in the Eighteenth Figure, as I was assured upon my own Examination of the Number I here give you, and by Comparison thereof with the same wrought by another hand, agreeing therewith to 57 of the 60 places, Being desirous to be satisfied how this Difference arose, I took the no small trouble of Examining Mr. *Gregory's* Work; and at length found, that in the inscribed *Polygon* of 512 Sides, in the Eighteenth Figure was a 0 instead of 9, which being rectified, and the subsequent Work corrected therefrom, the Result did agree to a Unite with our Number. And this I propose, not to Cavil at an easie Mistake in managing of so vast Numbers, especially by a Hand that has so well deserved of the Mathematical Sciences; but to shew the exact Coincidence of two so very differing Methods to make Logarithms, which might otherwise have been questioned.

If future Industry shall ever produce Logarithmick Tables to many more places, than how we have them, the aforesaid Theorems will be of more Use to deduce the correspondent Natural Numbers to all the places thereof. In order to make the first *Chittad* serve all Uses, I was desirous to contract this Series, wherein all the Powers of l are present, into one, wherein each alternate Power might be wanting; but found it neither so Simple or Uniform as the other. Yet the first step thereof is, I conceive, most Commodious for Practice, and withal exact enough for Numbers not exceeding Fourteen Places, such as are Mr. Briggs's large Table of Logarithms; and therefore I recommend it to common Use.

It is thus: $a + \frac{al}{1-\frac{1}{2}l}$ or $b - \frac{bl}{1+\frac{1}{2}l}$ will be the Number answering to the Logarithm given, differing from the truth but by one half of the third Step of the former Series. But that which renders it yet more Eligible, is, that with equal facility it serves for Briggs's, or any other sort of Logarithms, with the only variation of writing $\frac{1}{m}$ instead of 1, that is, $a + \frac{al}{m-\frac{1}{2}l}$ and $b - \frac{bl}{m+\frac{1}{2}l}$ or $\frac{a + \frac{1}{2}l}{m - \frac{1}{2}l}$ and $\frac{b - \frac{1}{2}l}{m + \frac{1}{2}l}$, which are easily resolved into Analogies, viz.

As 43429 &c. $-\frac{1}{2}l$ to 43429 $+\frac{1}{2}l$:: So is a to the Number sought.

Or, As 43429 &c. $+\frac{1}{2}l$ to 43429 $-\frac{1}{2}l$:: So is b to the Number sought.

If more steps of this Series be desired, it will be found as follows,

$a + \frac{al}{1-\frac{1}{2}l} - \frac{\frac{1}{2}al^3}{1-l} + \frac{\frac{1}{32}al^5}{1-2l}$ &c. as may easily be demonstrated, by working out the Divisions in each step, and collecting the Quotes; whose Sum will be found to agree with our former Series.

Thus, I hope, I have cleared up the Doctrine of Logarithms, and shewn their Construction and Use independent from the Hyperbola, whose Affections have hitherto been made use of for this purpose, tho' this be a matter purely Arithmetical, nor properly demonstrable from the Principles of Geometry. Nor have I been obliged to have recourse to the Method of Indivisibles, or the Arithmetick of Infinites; the whole being no other than an easie Corollary to Mr. Newton's General Theorem for forming Roots and Powers.

Of making Natural Logarithms.

TO the making of *Logarithms*, the First thing requisite is to find the Natural Logarithms of Two or Three of the least and first Prime Numbers, *viz.* of 2, 3 and 5, or rather 10, by the Reciprocal of which *Briggs's* (that are the most useful Logarithms) are compos'd.

The Logarithm of 1, is always 0. That of 2, the next Prime, then is first requir'd; but to attempt to raise that directly and immediately, would be so very laborious and tedious a Task (much more the greater Primes) that 'tis more expedient to use such Fractionate Numbers as lie between 1 and 2, by the Multiplication whereof 2, 3 and 5 may be produc'd; of which, in the design'd Method, those are most convenient, whose Numerators exceed the Denominators only by an Unite, since hereby Multiplication is wholly avoided.

The Rule for making the Natural Logarithms of such improper Fractions, may be this:

i.e. The Sum of the Numerator and Denominator.

To the Double of the Denominator, add an Unite†; this shall be the Divisor: The Excess of the Numerator above the Denominator, in this Case always 1,000 &c. is the Dividend: The Powers of this simple Fraction, compos'd of this Divisor and Dividend, must be rais'd by a continual Division, till the *Series* run out at such a Number of Figures as are requir'd; but (because none but the Odd Powers are of Use) after the first Division, let that Quotient, and all the rest successively, be divided by the Square of the first Divisor. The Powers being thus rais'd, divide each respectively by its proper Index, *i.e.* the 1st by 1, the 2^d by 3, the 3^d by 5, &c. The Sum of all these Quotients will be the Natural Logarithm of the Fraction propos'd.

Because the Logarithms of three Prime Numbers, 2, 3 and 5, are sought, which are mutually subservient to the composing each other, no fewer than Three *Series* can suffice: Therefore Three improper Fractions must be chosen, in each of which two at least of these Prime Numbers are ingredient; of which, such as come nearest 2, as $\frac{3}{2}$, $\frac{4}{3}$, $\frac{5}{4}$, require the greatest labour in raising their several *Series*; but from those, once compleated, the Logarithms of the desired Primes are most easily deduced: For those Fractions, that approach nearer 1,000 &c. (*i.e.* whose Denominators are greater) the *Series* are rais'd with less labour, tho' the deducing the Logarithms of the Primes therefrom be a little more intricate, and infer many more Additions of Logarithms; but that being a Trouble scarce at all considerable, comparatively with that of making the *Series*, these must be suppos'd more eligible.

I. The

I. The Series for making the Logarithm of $\frac{1}{2}$; twice $2+1=5$ the first Divisor, the Square of $5=25$ the Divisor for the rest.

5) 1.00000.00000.00000.00000.00000
(.20000.00000.&c.
25) 20000(800.00000.
25) 80000(32.00000.
25) 32000(1.28000.
25) 12800(5120.00000.
25) 51200(204.80000.
25) 204800(8.19200.
25) 819200(.32768 00000.
25) 327680(1310.72000.
25) 1310720(52.42880.000000
25) 5242880(2.09175.200000
25) 20917520(8388.608000
25) 83886080(335.544320
25) 335544320(134.21773
25) 13421773(.536871
25) 536871(21475
25) 21475(859
25) 859(34

The Odd Powers divided by 1,3,5,&c.
.20000.00000.00000.00000.00000
3) 266.66666.66666.66666.66666
5) 6.40000.&c
7) .18285.71428.57142.857143
9) 5688.88888.88888.888889
11) 18.61818.18181.818182
13) .63015.38461.538461
15) 2184.53333.333333
17) 77.10117.647059
19) 2.75941.052632
21) 9986.438095
23) 364.722087
25) 13.421773
27) .497103
29) 18513
31) 693
33) 26
35) 1

The Sum is the Natural Log. of $\frac{1}{2}=0.20273.25540.54082.19098.900657$

II. The Series for making the Logarithm of $\frac{1}{3}$; twice $3+1=7$ the first Divisor, the Square of $7=49$ the Divisor for the rest.

7) 1.00000.00000.00000.00000.00000
(.14285.71428.57142.85714.285714
49) 14285(291.54518.95043.73177.842566
49) 291545(5.94990.18266.19860.772297
49) 59490(12142.65678.90201.240251
49) 121420(247.80932.22249.004903
49) 247809(5.05733.31066.306223
49) 505733(10321.08797.271556
49) 103210(210.63444.842277
49) 210634(4.29866.221271
49) 429866(8772.780026
49) 8772780026(179.035327
49) 179036327(3.653803
49) 3653803(74567
49) 74567(1522
49) 1522(31

The Odd Powers divided by 1,3,5,&c.
.14285.71428.57142.85714.285714
3) 97.18172.98347.91059.280855
5) 1.18998.03653.23972.154459
7) 1734.66525.55743.034322
9) 27.53436.91361.000545
11) .45975.75551.482384
13) 793.92984.405504
15) 14.04229.656152
17) .25286.248310
19) 461.725264
21) 8.525339
23) .158861
25) 2983
27) 56
29) 1

The Sum is the Natural Log. of $\frac{1}{3}=0.14384.10362.25890.46371.960949$

1st Series = $\frac{1}{2}=0.20273.25540.54082.19098.900657$
2nd Serie = $\frac{1}{3}=0.14384.10362.25890.46371.960949$
4 = 1st + 2d = 2 = 0.34657.35902.79972.65470.861606
5 = 1st + 4th = 3 = 0.54930.61443.34054.84569.762263
6 = 2d + 5th, or = 4 + 4 = 4 = 0.69314.71805.53945.30941.723212
next pag. 11th Series = $\frac{1}{4}=0.11157.17756.57104.87788.314756$
7 = 6 + 3 = 5 = 0.80471.89562.17050.18730.037967
8 = 4 + 7 = 10 = 1.15129.25464.97022.84200.899573

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III. The Series for the Logarithm of $\frac{1}{4}$ or $\frac{1}{8}$; twice $4+1=9$ the first Divisor, the Square of $9=81$ the Divisor for all the rest.

9)	1.00000.00000.00000.00000.000000	The Odd Powers divided by 1,3,5,&c.
	(1111.1111.1111.1111.1111	.1111.1111.1111.1111.1111
81)	11&c.(137.17421.12482.85322.359396	3) 45.72473.70827.61774.119799
81)	1371&c.(1.69350.87808.43028.671104	5) .33870.17561.68605.734221
81)	16935 &c.(2090.75158.12876.897174	7) 298.67879.73268.128168
81)	209075 &c.(25.81174.79171.349718	9) 2.86797.19907.924413
81)	258117 &c.(.31866.35545.344935	11) 2896.94140.484085
81)	3186635 &c.(393.41179.571913	13) 36.26244.582455
81)	3934117 &c.(4.85693.974962	15) .32379.571664
81)	4856939 &c. 5996.216975	17) 352.718646
81)	5996216975 (74.047371	19) 3.896177
81)	74027371 (.913918	21) 43520
81)	913918 (11283	23) 490
81)	11283 (139	25) 6
The Sum is the Natural Log. of $\frac{1}{4} = \frac{1}{2} = .11157.17756.57104.87788.314755$		

Those Three improper Fractions, whose Denominators, I presume, are the greatest that can be found, which are capable of effecting this, are $\frac{1}{15}$, $\frac{1}{24}$, $\frac{1}{35}$; which shall be pitch'd upon as another Instance.

I. The Series for $\frac{1}{15}$, or $\frac{1}{3}$. Twice $15=30$, $30+1=31$ the first Divisor, the Square of $31=961$ is Divisor for the rest.

31)	1.00000 00000.00000.00000.000000	The Odd Powers divided by 1,3,5,&c.
	(.03225.80645.16129.03225.806452	.03225.80645.16129.03225.806452
961)	032&c.(3.35671.84720.21751.535699	3) 1.11890.61573.40583.845233
961)	3356 &c.(349.29432.59127.733128	5) 69.85886.51825.546626
961)	34929 &c.(.36346.96419.487756	7) 5192.42345.541108
961)	353469 &c.(37.82202.309561	9) 4.20244.701062
961)	378220 &c.(3935.694391	11) 357.790399
961)	393569 &c.(4.095416	13) 315032
961)	4095416 (4262	15) 284
The Sum is the Natural Log. of $\frac{1}{15} = .03226.92605.68785.58583.646196$		

II. The Series for $\frac{1}{24}$, or $\frac{1}{4}$. Twice $24=48$, $48+1=49$ the first Divisor, and the Square of $49=2401$ is Divisor for the rest.

49)	1.00000.00000.00000.00000.000000	The Odd Powers divided by 1,3,5,&c.
	(.02040.81632.65306.12244.897959	.02040.81632.65306.12244.897959
2401)	0204 &c.(.84998.59752.31408.681716	3) .28332.86584.10469.560585
2401)	8499 &c.(35.40133.17464.143556	5) 7.08026.63492.828711
2401)	35401 &c.(1474.44113.895936	7) 210.63444.842277
2401)	14744 &c.(.61409.460182	9) 6823.273354
2401)	61409 &c.(25.576618	11) 2.325147
2401)	25576618 (10652	13) 820
The Sum is the Natural Log. of $\frac{1}{24} = .02041.09972.60127.56477.728853$		

III.

III. The Series for $1\frac{1}{2}$, or $\frac{3}{2}$. Twice 80, or $160+1=161$ is the first Divisor, the Square of $161=25921$ is Divisor for the rest.

161) 1.00000.00000 &c. (*)	The Odd Powers divided by 1, 3, 5, &c.
*(.00621.11801.24223.60248.247205	.00621.11801.24223.60248.447205
25921) 0062 &c(2396.19618.23323.183845	3) 798.73205.07774.394615
25921) 23961 &c(9244.22739.220060	5) 1848.84547.844012
25921) 92442 &c. 35663.081641	7) 5094.725948
25921) 35663 &c. 1.375837	9) 152871
25921) 1376837	11) 5

The Sum is the Natural Log. of $\frac{11}{10} = .0062112599.99278.57665.564656$	
$1 = \frac{1}{1} = \frac{1}{1} = .03226.92605.68785.58583.646196$	
$2 = \frac{1}{2} = \frac{1}{2} = .02041.09972.60127.56477.728853$	
$3 = \frac{1}{3} = \frac{1}{3} = .00621.12599.99278.57665.564656$	
$1^{st} + 2^{d} + 3^{d} = 4 = \frac{1}{4} = \frac{1}{4} = .05889.15178.28191.72726.939705$	
$1 + 2^{d} + 4^{th} = 5 = \frac{1}{5} = \frac{1}{5} = .11157.17756.57104.87788.314754$	
$1 + 5^{th} = 6 = \frac{1}{6} = \frac{1}{6} = .14384.10362.25890.46371.960950$	
$4^{th} + 6^{th} = 7 = \frac{1}{7} = \frac{1}{7} = .20273.25540.54082.19098.900655$	
$6^{th} + 7^{th} = 8 = \frac{1}{8} = \frac{1}{8} = .34657.35902.79972.65470.861605$	
$3 \text{ in } 8^{th} = 9 = 8 = 1.03972.07708.39917.96412.584817$	
$5^{th} + 9^{th} = 10 = \text{N. Log. } 10 = 1.15129.25464.97022.84200.899571$	

If greater Exactness be desir'd, more Series must be admitted: No fewer than Four will be sufficient, if the least Numbers be $(1^{st}) \frac{25}{24}$, then the (2^{d}) may be $\frac{26}{25}$, the $(3^{d}) \frac{40}{39}$, $(4^{th}) \frac{81}{80}$; then the $2^{d} + 3^{d} = (5^{th}) \frac{26}{25} + \frac{40}{39} = \frac{16}{15}$, $(6^{th}) \frac{81}{80} + \frac{16}{15} + \frac{25}{24} = \frac{9}{8}$, &c. as in the foregoing Operation.

Other Four Series may be, $(1) \frac{47}{48}$, $(2) \frac{64}{63}$, $(3) \frac{126}{125}$, $(4) \frac{225}{224}$, $(5) \frac{126}{125} + \frac{225}{224} = \frac{81}{80}$, $(6) \frac{49}{48} + \frac{64}{63} + \frac{225}{224} = \frac{25}{24}$, $(7) \frac{64}{63} + \frac{126}{125} + \frac{25}{24} = \frac{16}{15}$, $(8) \frac{81}{80} + \frac{16}{15} + \frac{25}{24} = \frac{9}{8}$ &c. as above.

Five Series will be requir'd, if the least Numbers be $(1^{st}) \frac{64}{63}$, $(2^{d}) \frac{81}{80}$, $(3^{d}) \frac{100}{99}$, $(4^{th}) \frac{121}{120}$, $(5^{th}) \frac{126}{125}$; then $(6^{th}) \frac{81}{80} + \frac{100}{99} + \frac{100}{99} + \frac{121}{120} = \frac{25}{24}$, $(7^{th}) \frac{64}{63} + \frac{126}{125} + \frac{25}{24} = \frac{16}{15}$. Then, as before, $(8^{th}) \frac{81}{80} + \frac{16}{15} + \frac{25}{24} = \frac{9}{8}$ &c.

Six Series will be necessary, when the least Numbers are: $(1) \frac{100}{99}$, $(2) \frac{121}{120}$, $(3) \frac{126}{125}$, $(4) \frac{225}{224}$, $(5) \frac{125}{124}$, $(6) \frac{961}{950}$, $(7) \frac{126}{125} + \frac{225}{224} = \frac{81}{80}$, $(8) \frac{81}{80} + \frac{100}{99} + \frac{100}{99} + \frac{121}{120} = \frac{25}{24}$, $(9) \frac{125}{124} + \frac{125}{124} + \frac{961}{950} = \frac{3125}{3072}$, $(10) \frac{25}{24} + \frac{25}{24} + \frac{3125}{3072} = \frac{16}{15}$, &c. as before.

26 *An Easy and Compendious Method of making Logarithms,*

As the Divisors are augmented, so likewise must the Number of Series.

Note, That all the foregoing Operations, represented by Fractions, are suppos'd to be perform'd by Logarithms.

But this Work having been already accomplished by the Industry of Mr. *Abr. Sharp*, need not be further insisted on; he has communicated the Hyperbolick Logarithm of 10, which is the double of this, by him computed and confirmed by a tripple Proof to 82 Figures; and its Reciprocal, being

An Abacus for Reducing the Natural Logarithm to Mr. Briggs's.

1	0.86858.89638.06503.65530.22578.37833.21016.45887.94011.60733.31322.28907.56632.
2	1.73717.79276.13007.31060.45156.75666.42032.91775.88023.21466.62644.57815.13264.
3	2.60576.68914.19510.96590.67735.13499.63049.37663.82034.82199.93966.86722.69896.
4	3.47435.58552.26014.62120.90313.51332.84065.83551.76046.42933.25289.15630.26528.
5	4.34294.48190.32518.27651.12891.89166.05082.29439.70058.03666.56611.44537.83160.
6	5.21153.37828.39021.93181.35470.26999.26098.75327.64069.64399.87933.73445.39792.
7	6.08012.27466.45525.58711.58048.64832.47115.21215.58081.255133.19256.02352.96424.
8	6.94871.17104.52029.24241.80627.02665.68131.67103.52092.85866.50578.31260.53056.
9	7.81730.06742.58532.89772.03205.40498.89148.12991.46104.46599.81900.60168.09688.

The Reciprocal of the Natural Log. viz.

0.86858.89638.06503.65530.225784

Multiply'd by the Natural Log. of $\frac{1}{2}$, viz.

.11157.17756.57104.87788.314755

.08685.88963.80650.36553.022578

0868.58896.38065.03655.302258

086.85889.63806.50365.530226

43.42944.81903.25182.765113

6.08012.27466.45525.587116

.08685.88963.80650.365530

6080.12274.66455.255871

608.01227.46645.525587

43.42944.81903.251828

9.21153.37828.390219

.43429.44819.032518

6080.12274.664552

086.85889.638065

3.47435.585523

.69487.117104

6080.122747

608.012275

69.487117

6.948712

.260577

08686

3474

608

43

The Product is Briggs's Log of $\frac{1}{2}$ =

.09691.00130.08056.41435.878331

being half of this here used, to 65 Figures; viz. The Natural Log. of 10 = 1.15129.25464.97022.84200.89957.27342.18210.98007.50744.31428.64880.16663.95048.37863.04838.67624 01, and its Reciprocal = 0.86858.89638.06503, &c. whereby Mr. Briggs's Logarithms, (which are most convenient for use, the Log. of 10 being assign'd = 1.00000 &c.) are not only reduc'd from the Natural by Multiplication, but immediately rais'd with the greatest Ease and Expedition. For Instance, The Natural Log. of $\frac{1}{2}$ (in page 24.) is reduc'd to Mr. Briggs's, in the foregoing Page; and for the more Ease, in the like Cases, the Reciprocal of the Natural Logarithm of 10 is multiply'd by 2, 3, 4, 5, 6, 7, 8, 9, in the Margin.

To confirm the former way, Briggs's Logarithm of $\frac{1}{2}$ is immediately rais'd, in which the Reciprocal of the Natural Log. of 10 is made the first Dividend, all the rest must be as directed for making of Natural Logarithms, page 22.

The Series for Briggs's Log. of $\frac{1}{2}$, twice $4+1=9$ the first Divisor, the Square of 9=81 the Divisor for all the rest; as in the Natural Log. of $\frac{1}{2}$ p. 24

9)	0.86858.89638.06503.65530.225784	The Odd Powers divided by 1, 3, 5, &c.
	(.09650.98848.67389.29503.358420	.09650.98848.67389.29503.358420
81)	96848.119.14800.50091.22586.461215	3) 39.71600.20030.40862.153738
81)	119184.147096.30371.49661.561249	5) .29419.26074.29932.312250
81)	14709 &c.(1816.00374.95674.834089	7) 259.42916.70810.690584
81)	18160 &c.(22.41979.93773.763384	9) 249108.88197.084820
81)	224197 &c.(.27678.76466.348748	11) 251625133.303887
81)	276787 &c.(341.71314.399293	13) 2628562.646100
81)	3417131 &c.(4.21868.079004	15) .28124.538600
81)	421868079004(.5308.247889	17) 306.367522
81)	5208247889(.64.299357	19) 3384172
81)	64299357(.793819	21) .037801
81)	793819(.9800	23) 426
81)	9800(.121	25)

The Sum is Briggs's Log. of $\frac{1}{2}$ = 0.69691.00130.08056.41435.878331
Co-Arg. is Briggs's Log. of 2 = 0.90308.99869.91943.58564.121669

What is writ, is sufficient to shew, how the Prime Logarithms may be made; and it's needless to say more, the abovesaid Mr. Mr. Sharp having, with inexpressible Care and Pains, composed the following Table of Logarithms (most of 'em to 61 places) for all Numbers under 100, and all Primes under 200. I durst not importune him to complete the Figures wanting at the end of some of them: But the ease of this method may perhaps tempt some curious Reader to supply them, who will then be a Judge how much he is indebted to the Labours of this admirably Industrious Author.

Mr. Briggs's Logarithms for all Numbers, from 1 to 100,
Calculated by that Ingenious Gentleman, and Indefatigable Mathematician,

1	0.00000.00000.00000.00000.00000.00000.00000.00000.00000.00000	1
2	0.30102.99956.63981.19521.37388.94724.49302.67681.82881.46201.85413.104275	2
3	0.47712.12447.19662.43729.50279.03255.11530.92001.18864.19069.58648.298656	3
4	0.60205.99913.27962.39042.74777.89448.98605.35363.79762.92421.70826.208549	4
5	0.69897.00043.36018.80478.62611.05275.50697.32318.10118.53789.14586.895725	5
6	0.77815.12503.83643.63250.87667.97979.60833.59683.18745.65280.44061.402931	6
7	0.84509.80400.14256.83071.22162.58592.63619.34835.72396.32396.54065.036350	7
8	0.90308.99869.91943.58564.12166.84173.47908.03045.69644.38632.56239.312824	8
9	0.95424.25094.39324.87459.00558.06510.25061.84002.57728.38139.17296.597323	9
10	1.00000.00000. &c.	10
11	1.04139.26851.58225.04075.01899.71243.02424.17067.02190.46645.30945.965390	11
12	1.07918.12460.47624.82772.25056.92704.10136.27365.08627.11491.29474.507206	12
13	1.11394.33725.00836.76920.65051.57942.32843.08297.39188.38706.82718.011910	13
14	1.14612.80356.78128.02592.59551.53317.12922.02517.62277.78607.39478.146624	14
15	1.17609.12590.57681.24208.12890.08530.62228.24319.38382.72853.73225.194382	15
16	1.20411.99826.55924.78085.49555.78897.97210.70727.59525.84843.41652.417028	16
17	1.23044.82133.78273.92854.01698.94328.33703.00075.67378.42504.63973.803689	17
18	1.25517.278051.03306.06980.37947.01234.72364.51684.47609.84350.02703.701538	18
19	1.27875.36009.52828.96153.63334.75756.92931.79511.29337.39449.75989.068189	19
20	1.30102.99956.63981.19521.37388.94724.49302.67681.82881.46201.85413.104275	20
21	1.32221.92947.33919.26800.74411.61847.75190.25837.01963.51466.12713.33506	21
22	1.34242.26308.22206.23596.32388.69967.51726.84748.92871.92856.16319.069665	22
23	1.36172.78360.57922.87886.77771.212251.18954.96975.11034.33609.61882.7652	23
24	1.38021.12417.11606.02293.62445.57428.59438.95046.98088.57702.14867.611480	24
25	1.39794.00086.72037.60957.25222.10551.01394.64636.20237.07578.29173.3731451	25
26	1.41497.33479.70817.96442.02440.52666.82145.75979.19069.84917.68131.116184	26
27	1.43136.37641.15897.31188.50837.09765.34592.76003.86592.57208.75944.395969	27
28	1.44715.80314.42219.22113.96940.48041.62224.70199.52153.24818.24891.144899	28
29	1.46239.79978.98956.08733.28467.62950.25499.12542.94417.83715.38410.	29
30	1.47712.12547.19662.47729.50279.03255.11530.92001.18864.19069.58648.298656	30
31	1.49136.16938.32727.67966.67041.80118.41572.23037.01558.30418.4655	31
32	1.50514.99783.19905.97606.86944.73622.46513.38403.49407.31054.27065.521373	32
33	1.51851.39398.77887.47804.52278.74492.13955.09083.31054.65714.9594.260407	33
34	1.53147.89170.42255.12375.39087.89052.83005.67757.57522.88715.49386.900594	34
35	1.54406.80443.50275.53549.84773.63868.14316.67153.82514.86185.66651.932075	35
36	1.55630.25007.67287.26501.75335.95959.21667.19366.37491.30560.88122.805862	36
37	1.56820.17240.66994.99680.84506.39532.12944.79829.72690.16631.25466.176997	37
38	1.57978.39666.16810.16755.00723.70481.42234.47193.19218.56606.14021.172462	38
39	1.59106.46070.26499.20650.15330.61197.44374.00298.58052.57776.41266.310566	39
40	1.60205.99913.27962.39042.74777.89448.98605.35363.79762.92421.70826.208549	40
41	1.61278.35671.19735.49450.94118.49968.18379.95505.13633.83368.708	41
42	1.62324.92903.97900.46322.09830.56572.24452.94518.91141.57676.90126.439251	42
43	1.63346.84555.79586.52640.50881.53229.22215.88087.74884.38009.3416	43
44	1.64345.26764.86187.43117.76777.60662.01029.52430.81953.39067.01772.173939	44
45	1.65321.25177.75343.67937.63169.11785.73751.16320.67846.91928.31882.493038	45
46	1.66275.78316.81574.07408.15160.06975.63577.64657.70955.79320.47291.8602	46
47	1.67202.78579.35717.46441.42193.99449.20064.01593.03098.42994.78270.373294	47
48	1.68124.12373.75587.21814.99834.82153.085741.62728.38390.03913.00300.715555	48
49	1.69019.60020.28513.66142.44325.17185.27238.69671.44792.64793.08130.072692	49
50	1.69897.00043.36018.80478.62611.05275.50697.32318.10118.53789.14586.895725	50
51	1.70757.01760.97936.36583.51977.97583.45232.92076.96242.61574.22622.102341	51
52	1.71600.33436.34799.19663.39829.47391.51448.43661.08551.31128.53544.220459	52
53	1.72427.58696.00789.04563.29922.91627.25659.26955.02401.29493.77755.	53
54	1.73239.37598.22968.50703.88225.04489.83895.43685.76474.03419.61358.002244	54
55	1.74036.26894.94243.84513.64610.76518.93121.49385.12309.00244.45522.861116	55
56	1.74818.80270.06300.41635.34329.42766.11529.37881.42040.71039.10304.349278	56
57	1.75587.48565.72421.39883.13613.79012.04462.71512.58101.58519.34637.366845	57
58	1.76342.79935.62937.28254.75856.57669.37481.80224.84299.34926.2382	58
59	1.77085.20116.42144.19026.06563.84535.14423.39267.44474.93076.522	59
60	1.77815.12503.83643.63250.87667.97979.60833.59683.18745.65280.44061.402931	60

and for all PRIME NUMBERS, from 100 to 200.
Mr. Abr. Sharp at Little-Horsem near Bradford in Yorkshire.

61	1.78132.98350.10767.03388.57485.13757.32134.92633.78757.11340.42116.	61
62	1.79239.16894.98253.87488.04429.94842.90874.90718.91439.76629.3196	62
63	1.79934.05494.53581.70530.22720.65102.86681.18838.30124.70535.71361.633662	63
64	1.80617.99739.83887.17128.24333.08346.95816.06591.32388.77265.12478.625648	64
65	1.81291.33166.42855.57399.27662.63217.83540.40615.39206.92495.97304.907635	65
66	1.81954.39355.41863.67325.89667.69222.63257.76750.20936.11925.75007.368321	66
67	1.82607.48027.00826.43414.91316.29226.06658.09496.26080.56861.3869	67
68	1.83250.89127.06236.31896.76476.83777.32308.35439.47141.24936.34800.012236	68
69	1.83884.90907.37255.31616.28050.15506.30485.38976.39898.52679.20521.0547	69
70	1.84509.80400.14256.83071.22162.58592.63619.34335.72396.32396.54065.036350	70
71	1.85125.83487.19075.28609.28394.35035.42913.52704.19901.60039.201	71
72	1.85733.24964.31268.46023.12724.90083.70969.37048.27372.76771.73535.910137	72
73	1.86332.24601.20455.90107.43869.00470.30853.44525.58255.31165.74851.1	73
74	1.86923.17197.30976.19202.21895.84263.62247.47511.62571.62542.10879.281074	74
75	1.87506.12633.91702.04686.75501.13806.12925.56637.49101.26647.87822.090107	75
76	1.88081.35922.20791.35196.38112.65205.91537.14875.90102.31874.46815.576738	76
77	1.88649.27251.72481.87146.24162.29835.66043.51902.74586.79041.85011.001740	77
78	1.89202.46026.90480.40171.52719.59211.93676.67980.47930.03987.26779.414841	78
79	1.89762.70912.90441.42799.48313.86478.24968.64328.62290.0515.03156.2	79
80	1.90308.99869.91942.58564.12166.84173.47908.03045.69644.38632.56232.112824	80
81	1.90848.50188.78649.74918.01116.13020.46123.68005.15456.76278.345931.94626	81
82	1.91381.38523.83716.68972.31507.44692.67382.62987.03515.29579.662	82
83	1.91907.80923.76073.90383.27663.52027.26124.70016.37618.08063.04537.	83
84	1.92447.92860.68811.65843.47219.51286.73755.62200.81023.43887.8539.543555	84
85	1.92941.89257.14292.7332.64209.99603.84400.32392.77496.96243.78500.699410	85
86	1.93449.84512.43567.72161.88270.47953.71518.55769.64765.84220.1957	86
87	1.93951.92526.18618.52462.78746.66224.37030.04544.24282.07784.97018.	87
88	1.94448.26721.50168.62639.14166.55416.50332.20112.71234.85277.87185.278214	88
89	1.94939.00066.44912.78472.35433.69702.44112.46651.65858.10024.45836.3	89
90	1.95442.25094.39324.87459.00558.06510.23061.84002.57728.38132.17296.597813	90
91	1.95904.13923.22093.59991.87214.16534.96462.43137.01584.71803.37820	91
92	1.96378.78273.44555.52629.52149.01700.17560.32338.90797.26031.32708.9646	92
93	1.96848.29485.53931.11696.17322.02377.35303.15038.30422.43488.0520	93
94	1.97312.78555.99698.65962.73582.94173.69366.69279.92379.89205.63732.477569	94
95	1.97772.3605.28847.76632.25945.82032.43629.11829.39455.92238.90575.963914	95
96	1.98227.12330.39568.41336.37222.76877.58044.30410.78271.50122.85713.820029	96
97	1.98677.17342.66244.85178.43618.11665.57744.94258.41584.63886.69747.2	97
98	1.99122.60756.92494.85663.81714.11909.76541.3733.34674.11002.93543.176974	98
99	1.99565.51945.97549.91534.02557.77753.25486.01069.59918.84784.48242.562703	99
100	2.00000.00000.8c.	100
101	2.00432.13737.83642.57427.51881.78222.93791.32192.89355.29645.35914.058186	101
102	2.01283.72247.05172.20517.10711.94580.23924.43905.32346.9760.05648.	102
103	2.02938.37776.85209.64083.45412.39461.43564.61268.16891.62401.95	103
104	2.03742.64979.40623.63520.05133.07613.87528.66422.04521.82798.3682	104
105	2.04307.84434.53419.72279.52270.28609.44818.47783.83622.62109.734	105
106	2.04863.57009.55958.68624.69874.21847.28625.85765.63239.79249.86776	106
107	2.05427.12956.55764.20298.52626.20903.51324.99107.83856.74393.1529	107
108	2.06072.205671.56406.76856.29266.27114.78373.36732.29707.46422.504566	108
109	2.06701.48002.5405.08045.64332.02319.84731.44707.32967.91785.2	109
110	2.07318.62684.212274.0325.73635.42623.32705.39346.71326.37222.11155.44	110
111	2.07887.69472.93169.43616.90730.55527.30278.24460.93422.76687.7450	111
112	2.08459.96524.09233.73676.14311.29897.28570.50651.90092.78552.9587	112
113	2.09118.76044.72917.80764.22620.03355.51101.41313.52831.99442.2644	113
114	2.09781.64711.47583.27998.40759.03920.4675.344613.30401.37799.2751	114
115	2.10446.61031.28822.01456.05302.63758.46583.77816.53269.13492.6650	115
116	2.11115.30309.79893.17657.03826.91773.05861.94310.72090.67842.7623	116
117	2.11787.87448.69184.51028.97436.76412.29242.23799.59232.72391.73769	117
118	2.12458.33672.47727.53762.50435.98270.61031.44957.36124.17324.20406	118
119	2.13125.7309.77773.76059.72386.46353.31082.10972.21601.94604.8360	119
120	2.13796.62261.61592.92737.17443.17597.55501.75180.64722.02453.26906	120
121	2.14465.30764.09706.65010.00217.8441.80284.14248.88771.49827.2443	121

20 An Easy and Compendious Method of making Logarithms.

The next Work is to shew, how Mr. *Briggs's* Logarithms above 200 are immediately compos'd, for which several Rules may be laid down: That which is most general and easie, and comes nearest the former, for the Natural Logarithms, is this:

I. Let the Number, whose Logarithm is sought, and either of the other two Numbers next it, greater or less by an Unite (the Logarithms of one or both of which are given) be made an improper Fraction; to the Denominator doubled, add 1.0, that shall be the first Divisor, and the Square of that must divide the first Quotient, and all the rest: The Dividend must always be the Reciprocal of the Natural Logarithm of $10 = 86858.89638.06503.65530.22578.37833$. &c. All the rest must be as is directed for making Natural Logarithms; only the Sum of the Series, or Logarithm of the Fraction, when the given Number is less than that sought, must be added to its Logarithm; when greater, subtracted from it. *Ex. Gr.*

The Series to make *Briggs's* Log. of 251, take 250, the next less, to make the Fraction $\frac{251}{250}$, whose Logarithm is first sought $2 \times 250 + 1 = 501$ is the first Divisor, the Square thereof $= 251001$ divides all the rest, as in the following Operation.

501)	.86858.89638.06503.65530.225784	The Odd Powers divided by 1, 3, 5, &c.
(	.00173.37105.06599.80769.521409	.00173.37105.06599.80769.521409
251001)	1733 &c. (69.07185.65503.646478	3) 23.02395.21834.548828
251001)	6907185 &c. (27.51855.831266	5) 5.50371.166253
251001)	2751855831266 (10.963525	7) 1.566218
251001)	10963525 (44	9) 5
		$\frac{251}{250} = 00173.37128.09000.52976.802711$
		$250 = 2.39794.00086.72037.60957.25221$
		$251 = 2.39957.37214.81038.13934.054932$

II. The second method may be this: If two Numbers, next that whose *Log.* is sought (either one greater, and the other less; or both greater, or both less) have known *Logarithms*, the Square of the middle Number shall be the Numerator of the improper Fraction; the Product of the other two, on each side, the Denominator.

For *Example*, Take 239, its Square 57121, and the Product of 238 and 240 = 57120; whence the Fraction $\frac{57121}{57120}$, and their Sum 114241, the first Divisor, and its Square 13051006081 Divisor for all the rest, as in the following Series.

114241)	86858.89638.06503.65530.225784	The Odd Powers divided by 1, 3,
(	.00000.76031.28157.19841.086215	.00000.76031.28157.19841.086215
13051006081)	7603128 &c. (.58247.027159	3) 19419.009058
The sum is <i>Briggs's</i> Log. of $\frac{57121}{57120}$		$= 0.00000.76031.28157.39260.095268$

Deduced from Mr. Halley's preceding Discourse. 38

If the *Log.* of the middle Number be sought, the *Log.* of the Fraction, added to the *Log.* of the greatest and least, will be the *Log.* of the Square of the middle Number; the half of which is its *Logarithm*, as in the following Work.

$$\begin{array}{rcl}
 24 \times 10 = 240 & (1) = 240 = & 2.38021.12417.11606102293.624498 \\
 24 \times 7 = 238 & (2) = 238 = & 2.37657.69570.56511.95446.612504 \\
 240 \times 238 = 57120 & (3) = 57120 = & 4.75678.81987.68117.97740.236964 \\
 & (4) = \frac{57120}{2} = & 0.00000.76031.28157.39260.095268 \\
 239 \times 239 = 57121 & (5) = 57121 = & 4.75679.58018.96275.37000.322232 \\
 \frac{1}{2} \text{ the } \text{Log. of } 57121 = \text{Log. of } 239 & & = 2.37839.79009.48137.68500.166116
 \end{array}$$

If the *Log.* of the greatest or least Number be sought, subtract the *Log.* of the Fraction from the *Log.* of the Square of the middle Number, the Remainder shall be the *Log.* of the Product of the other two; from which subtract the *Log.* of the known Number, the Remainder will be the *Log.* of the other.

Suppose the *Log.* of 239, 240 given, and 238 sought, then $(5)-(4)=(3)-(1)=2$; if the *Log.* of 239, 238 given, and 240 sought, then $(5)-(4)=(3)-(2)=(1)$.

III. The Third Method may be: Find such a Product of the Number, (whose Logarithm is sought) whose Factors have known Logarithms, which shall be greater or less by an Unite than another Number composed of such as have known Logarithms, these two shall make the Fraction whose Logarithms is to be directly sought, according to the prescriptions in the former, and the Logarithm desired deduc'd thence, as in the first method. For Instance, Take 227, which drawn into 27 and 31, produces 189999, the Fraction is $\frac{189999}{144399240001}$, the first Divisor $2 \times 189999 + 1 = 379999$, the Square of that 144399240001 divides all the rest.

$$\begin{array}{rcl}
 379999) 86858.8953806503.65530.225784 & \text{The Odd Powers divided by 1, 3,} & \\
 (00000.22857.66446.24460.499976 & .00000.22857.66446.24460.499976 & \\
 144399240001) 2285766 & \text{3) } & 127.649898 \\
 1582.949077 & & \\
 1582.949077 & = & .00000.22857.66446.24988.149668 \\
 190000 & = & 5.27875.36009.52828.96153.633347 \\
 189999 & = & 5.27875.13151.86382.71165.483679 \\
 27 \times 31 = 837 & = & 2.92272.54579.93259.99155.178781 \\
 227 & = & 2.35602.58571.93122.79010.304898
 \end{array}$$

Another Instance shall be to Raise the Logarithm of 211:

$211 \times 211 \times 211 \times 211 = 1982119441$ } The Sum 3964238881, which
 $60 \times 28 \times 53 \times 113 \times 197 = 1982119440$ }
 at the first Division Quotes the *Log.* of the Fraction to 19 places.

$3964238881.868588963806503 \text{ \&c. } (0.00000.00002.19106.11087.78080.3577$
 $60 \times 28 \times 53 \times 113 \times 197 = 1982119440 = 9.29712.98209.71664.14944.84244.8396$
 The 4th Power of 211 = $1982119441 = 9.29712.98211.90770.66032.62325.1969$
 $\frac{1}{2}$ of which is the *Log.* of 211 = $2.32428.24552.97692.66508.15581.7002$
 This

32 *An Easy and Compendious Method of making Logarithms,*

This last Method may ordinarily be render'd as Universal as the first; and more Exact and Expedition than the second; all the difficulty being in finding out proper Numbers. The method I commonly us'd, which rarely fails, is here subjoyn'd; better understood by the Performance, than express'd.

<p>For $223 \times 7 = 1561$ $\quad \quad 8 = 1784$ $223 \times 87 = 19401$ $\quad \quad 2 = 446$ $223 \times (7 \times 41) = 287 = 64001$</p>	<p>Again, $3 \times 223 = 669$ $\quad \quad 1 = 223$ $223 \text{ in } 13 = 2899$ $\quad \quad 7 = 1561$ $131 \times 23713 = 158999$</p>
<p>For $229 (1 = 229$ in $9 = 2061$ $\quad \quad 3 = 687$ $\quad \quad 31 = 7099$ $\quad \quad 1 = 229$ $\quad \quad 131 = 29999$</p>	<p>$6 = 1374$ $69 = 15801$ $8 = 1832$ $869 = 199001$ $9 = 2061$ $71 \times 139 = 9869$ 2260001</p>

Here two convenient Fractions are discovered, for making the

Logarithms of $\left\{ \begin{array}{l} 223 \frac{64001 = 7 \times 41 \times 223}{64000} \text{ and } \frac{159000 = 1000 \times 53 \times 3}{158999 = 31 \times 23 \times 223} \\ 229 \frac{30000}{29999 = 131 \times 229} \text{ and } \frac{2260001 = 71 \times 139 \times 229}{2260000 = 2 \times 113 \times 10000} \end{array} \right.$

Another Expedient for finding Numbers, accommodate to the Third Rule or Method of making Briggs's Logarithms.

Find such a Product of the Number, whose Logarithm is sought (the greater the better) which hath two Numbers nearest it, on both or either side, compos'd of such whose Logarithms are known; Square the Middle, that shall be the Numerator; the Product of the two on either side, is the Denominator of the Fraction; the Logarithm whereof is to be made according to the Rules there laid down, only observing in which the sought Number is ingredient; if in the Numerator, the Logarithm of the Fraction must be added to the Logarithm of the Denominator; but if in the Denominator, it must be subtracted from the Logarithm of the Numerator, &c.

Convenient Fractions found for Raising the Logarithms of 211, 223, 227, 229, 233, 239, 241, 251, and 257.

Of 211 $211 \times 11 = 2321$ } $\frac{5387041 = 121 \times 211 \times 211}{2322 = 54 \times 43, \quad 80 \times 29 = 2320$ } $\frac{5387040 = 80 \times 54 \times 29 \times 43}{\text{Of } 223 \quad 100 \times 29 = 2900$ } $\frac{8404201 = 169 \times 223 \times 223}{2898 = 14 \times 9 \times 23, \quad 223 \times 13 = 2899$ } $\frac{8404200 = 2900 \times 126 \times 23}{\text{Of}}$

Of 227	$20 \times 193 = 3860$	$\frac{14899600}{14899599} = 400 \times 193 \times 193$
$3861 = 27 \times 163$,	$17 \times 227 = 3859$	$\frac{14899599}{50395801} = 27 \times 143 \times 17 \times 227$
Of 229	$229 \times 31 = 7099$	$\frac{50395801}{50395800} = 31 \times 31 \times 229 \times 229$
$7100 = 71 \times 100$,	$14 \times 39 \times 13 = 7098$	$\frac{50395800}{100 \times 71 \times 42 \times 13 \times 13}$
Of 233	$20 \times 19 \times 29 = 11020$	$\frac{121440400}{121440399} = 400 \times 19 \times 19 \times 29 \times 29$
$11021 = 103 \times 107$,	$233 \times 43 = 11019$	$\frac{121440399}{43 \times 103 \times 107 \times 233}$
Of 239	$700 \times 14 = 9800$	$\frac{96040000}{96039999} = 49 \times 49 \times 40000$
$9801 = 121 \times 81$,	$239 \times 41 = 9799$	$\frac{96039999}{81 \times 121 \times 41 \times 239}$
Of 241	$241 \times 41 = 9881$	$\frac{97634161}{97634160} = 41 \times 41 \times 241 \times 241$
$9882 = 9 \times 18 \times 61$,	$520 \times 19 = 9880$	$\frac{97634160}{40 \times 13 \times 19 \times 9 \times 18 \times 61}$
Of 251	$240 \times 137 = 32880$	$\frac{1081094400}{1081094399} = 240 \times 240 \times 137 \times 137$
$32881 = 251 \times 131$,	$11 \times 49 \times 61 = 32879$	$\frac{1081094399}{11 \times 49 \times 61 \times 131 \times 251}$
Of 257	$257 \times 47 = 12079$	$\frac{145902241}{145902240} = 47 \times 47 \times 257 \times 257$
$12080 = 80 \times 151$,	$18 \times 11 \times 61 = 12078$	$\frac{145902240}{80 \times 18 \times 11 \times 61 \times 151}$

And for a Proof of the Logarithms of 251 and 257,

$43 \times 251 = 10793$	$\frac{116488849}{116488848} = \frac{43 \times 43 \times 251 \times 251}{8 \times 19 \times 71 \times 42 \times 257}$
$10794 = 257 \times 42, 8 \times 19 \times 71 = 10792$	

The like Expedients, I presume, may be found for any other Primes.

Another different Method of making Logarithms, communicated by Mr. Abr. Sharp, deriv'd from Dr. Wallis's Illustration of Mercators Quadrature of the Hyperbola, in Philos. Transactions, N^o 38. wherein the greatest part of the Work, (viz. Raising all the Powers) is perform'd by Multiplication, being easier and of quicker dispatch than Division.

LET any three Numbers in Arithmetical Progression be propos'd, the least = A, the middle = B, the greatest = E.

If the Logarithm of any one of these be given, the Logarithms of the other two may be thus obtain'd, by an infinite Series,

I. Let the first Term of the Series be $C = \frac{B-A}{B} = \frac{E-B}{B} = \frac{E-A}{E+A}$

II. The Series = $\frac{C+C^2}{1-2} + \frac{C^2+C^4}{3-4} + \frac{C^4+C^8}{5-6} + \frac{C^8+C^{16}}{7-8} + \frac{C^{16}+C^{32}}{9-10} +$
&c.

III. The Sum of all the Odd Powers (each being divided by its proper Index) viz. $\frac{C}{1} + \frac{C^3}{3} + \frac{C^5}{5} + \frac{C^7}{7} +$ &c. = Z is the Hyperbolic Logarithm of $\sqrt{\frac{E}{A}}$.

34 *Of making Logarithms by Multiplication.*

IV. The Sum of the Even Powers, (each divided by its Index)
viz. $\frac{C^2}{2} + \frac{C^4}{4} + \frac{C^6}{6} + \frac{C^8}{8} + \frac{C^{10}}{10} + \&c. = X$ is the Hyperbolick Logarithm of $\sqrt{\frac{BB}{EA}}$.

V. The Sum of all the Powers, or $Z + X$ is the Hyperbolick Logarithm of $\frac{B}{A}$.

VI. The Difference of the Odd and Even Powers, or $Z - X$ is the Hyperbolick Logarithm of $\frac{E}{B}$.

If B be $= 1, 10, 100, 1000, 10000, \&c.$ all the Powers will be rais'd by the Multiplication of C continually for the Hyperbolick Logarithms; or of C into the Number $0.43429448 \&c.$ and into the several Products for *Briggs's* Logarithms; all which Powers must be divided by their respective Indices.

This Method hath this peculiar Advantage above others, That a *Series* once rais'd for the lowest Numbers in that Progression, will generally serve for finding the Logarithms of Eight or more Prime Numbers, without any more labour than Addition or Subtraction; therefore is undoubtedly the most Expeditious for Composing a Table, especially for making the Logarithms of the first Primes, tho' possibly not for raising a single Logarithm.

The Logarithms of the first Primes, *viz.* 2, 3, 5, &c. must unavoidably be the *Hyperbolick* or *Natural*, since in all Methods of raising Logarithms, these offer themselves first; and from hence must be deduc'd the Number $.43429448 \&c.$ which reduces them to *Briggs's*: Amongst variety of Expedients for effecting this, here fix upon one that is easie, and capable of a competent Exactness, by Three Series, since fewer will not perform it to a tolerable Accuracy, without great tediousness and difficulty.

The *First* Three Numbers are $96 = A, 100 = B, 104 = E$; then $\frac{B-A}{B} = \frac{100-96}{100} = \frac{4}{100}$, or $\frac{E-B}{B} = \frac{100-104}{100} = \frac{4}{100}$, or $\frac{E-A}{E+A} = \frac{104-96}{200} = \frac{8}{200} = \frac{4}{100} = C$: So that $.04 = C$ is the First Term, whose Powers, &c. make the First Series.

The *Second* are $92 = A, 100 = B, 108 = E$, and $\frac{B-A}{B} = \frac{8}{100} = .08 = C$.

The *Third* are $975 = A, 1000 = B, 1025 = E$, and $\frac{B-A}{B} = \frac{25}{1000} = .025 = C$, the First Term of the Third Series. A short

The 1st Series.

$$\begin{aligned} C &= 04 \\ C^1 &= 16 \\ C^2 &= 64 \\ C^3 &= 256 \\ C^4 &= 1024 \\ C^5 &= 4096 \\ C^6 &= 16384 \\ C^7 &= 65536 \\ C^8 &= 262144 \\ C^9 &= 1048576 \\ C^{10} &= 4194304 \\ C^{11} &= 16777216 \\ C^{12} &= 67108864 \\ C^{13} &= 268435456 \\ C^{14} &= 1073741824 \\ C^{15} &= 4294967040 \\ C^{16} &= 17179264000 \end{aligned}$$

$$\begin{aligned} C &= 04 \\ \frac{1}{2}C' &= 00213333333333333333 \\ \frac{1}{2}C' &= 2048 \\ \frac{1}{2}C' &= 234057142857143 \\ \frac{1}{2}C' &= 291271111111 \\ \frac{1}{2}C' &= 381300364 \\ \frac{1}{2}C' &= 516222 \\ \frac{1}{2}C' &= 716 \\ \frac{1}{2}C' &= 1 \end{aligned}$$

$$\begin{aligned} Z &= \sqrt{\frac{9}{2} \cdot 0.0400213538367682127118890} \\ \frac{1}{2}C^2 &= 0008 \\ \frac{1}{4}C^4 &= .0064 \\ \frac{1}{8}C^6 &= 06826666666666667 \\ \frac{1}{16}C^8 &= 8192 \\ \frac{1}{32}C^{10} &= 1048576 \\ \frac{1}{64}C^{12} &= 13981013 \\ \frac{1}{128}C^{14} &= 19174 \\ \frac{1}{256}C^{16} &= 27 \end{aligned}$$

$$\begin{aligned} X &= \sqrt{\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2}} \cdot 0008006406834869166426881 \\ Z \cdot X &= \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot 0408219945202551295545771 \\ Z \cdot X &= \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} \cdot 0392207131532812962692009 \end{aligned}$$

The II^d Series.

$$\begin{aligned} C^0 &= 08 \\ C^1 &= 64 \\ C^2 &= 512 \\ C^3 &= 4096 \\ 4 &= 32768 \\ 5 &= 262144 \\ 6 &= 2097152 \\ 7 &= 16777216 \\ 8 &= 134217728 \\ 9 &= 1073741824 \\ 10 &= 8589934592 \\ 11 &= 68719476736 \\ 12 &= 54275581389 \\ 13 &= 4398046511 \\ 14 &= 351843721 \\ 15 &= 28147498 \\ 16 &= 2251800 \\ 17 &= 180144 \\ 18 &= 14412 \\ 19 &= 1152 \\ 20 &= 92 \\ 21 &= 7 \end{aligned}$$

$$\begin{aligned} C^1 &= 08 \\ \frac{1}{2}C^1 &= 017066666666666666666666 \\ \frac{1}{4}C^1 &= 65536 \\ \frac{1}{8}C^1 &= 29959314285714285 \\ \frac{1}{16}C^1 &= 1491308088888889 \\ \frac{1}{32}C^1 &= 780903144727 \\ \frac{1}{64}C^1 &= 4228890876 \\ \frac{1}{128}C^1 &= 23456248 \\ \frac{1}{256}C^1 &= 132459 \\ \frac{1}{512}C^1 &= 759 \\ \frac{1}{1024}C^1 &= 4 \end{aligned}$$

$$\begin{aligned} Z &= \sqrt{\frac{1}{2}} \frac{1}{2} \cdot 6801713250375896916894914 \\ \frac{1}{2} C^2 &= 0032 \\ \frac{1}{4} C^4 &= 1024 \\ \frac{1}{8} C^6 &= 43690666666666666667 \\ \frac{1}{16} C^8 &= 2097152 \\ \frac{1}{32} C^{10} &= 1073741824 \\ \frac{1}{64} C^{12} &= 57266230813 \\ \frac{1}{128} C^{14} &= 314146179 \\ \frac{1}{256} C^{16} &= 1759219 \\ \frac{1}{512} C^{18} &= 10008 \\ \frac{1}{1024} C^{20} &= 58 \end{aligned}$$

$$\begin{aligned} X &= \sqrt{\frac{10000}{9918}} = .00321028390146136670527444 \\ Z - X &= \sqrt{\frac{100}{99}} = .08338156893905105835476588 \\ Z - X &= \sqrt{\frac{100}{99}} = .07696164113612832498421700 \end{aligned}$$

Of making Logarithms by Multiplication.

37

Shall here offer One of the Three Expedients, whereby these first Primes, together with many others, were computed to the Exactness of 82 places; which was by Six Series, (whereof, 008 was the lowest) whence the Logarithms of these Ten Fractions were made; the following Operations being suppos'd to be perform'd by Logarithms.

$$\begin{aligned}
 (1) \frac{1008}{1000} &= 7 \times 9 \times 16 & (2) \frac{1000}{992} &= 32 \times 31 & (3) \frac{1000125}{1000000} &= 63 \times 125 \times 127 \\
 (4) \frac{1000000}{999998} &= 62 \times 127 \times 127 & (5) \frac{10000}{9996} &= 14 \times 42 \times 17 & (6) \frac{100016}{100000} &= 112 \times 19 \times 47 \\
 (7) \frac{10000}{9975} &= 15 \times 35 \times 19 & (8) \frac{100000}{99875} &= 125 \times 17 \times 47 & (9) \frac{100000}{99975} &= 75 \times 31 \times 43 \\
 (10) \frac{1000008}{1000000} &= 72 \times 17 \times 19 \times 43 & (11) \frac{1008}{1000} + \frac{1008}{1000} + \frac{1000}{992} &= \frac{3969}{3875} = 63 \times 63 \\
 (12) \frac{1000125}{1000000} + \frac{1000125}{1000000} + \frac{1000000}{999998} &= \frac{3969}{3968} = 63 \times 63 & (13) \frac{3969}{3875} - \frac{3969}{3968} &= \\
 \frac{128}{125} & & (14) \frac{1008}{1000} + \frac{1008}{1000} + \frac{10000}{9996} &= \frac{432}{425} = 16 \times 27 \\
 (15) \frac{100016}{100000} + \frac{100000}{99875} &+ & (16) \frac{432}{425} - \frac{256}{255} &= \frac{81}{80} \\
 \frac{10000}{9975} - \frac{256}{255} &= 16 \times 16 & (17) \frac{100000}{99975} + \frac{1000008}{1000000} &= \\
 \frac{3876}{3875} - 12 \times 17 \times 19 & & (18) \frac{1000}{992} - \frac{3876}{3875} &= \frac{15625}{15504} = 125 \times 125 \\
 (19) \frac{15625}{15504} &- & (20) \frac{78125}{77824} - \frac{10000}{9975} &= \frac{65625}{65536} = 15 \times 7 \times 625 \\
 \frac{256}{255} - \frac{78125}{77824} &= 64 \times 64 \times 19 & (21) & \\
 \frac{128}{125} + \frac{128}{125} + \frac{65625}{65536} &= \frac{21}{20} & (22) \frac{21}{20} - \frac{1008}{1000} &= \frac{25}{24} \\
 (23) \frac{128}{125} + \frac{25}{24} &= \frac{16}{15} & (24) & \\
 \frac{81}{80} + \frac{16}{15} + \frac{25}{24} &= \frac{9}{8} \text{ \&c. as in the former Operations.}
 \end{aligned}$$

It remains to Exemplify in the making *Briggs's* Logarithms immediately by this method: Take the Three Numbers in the II^d Series, viz. 92=A, 100=B, 108=E, and $\frac{B-A}{B} = \frac{8}{100} = 08=C$, by which multiplying the Reciprocal of the Hyperbolic Logarithm of 10 viz. 43429448, &c.=N continually, and dividing the respective Powers by their proper Indices, the following Series are made.

$$C \times N = 43429, \text{ \&c.}$$

$$\begin{aligned}
 C \times N &= 434298 \times 034743558552260146212 \\
 C \times 347438 &= C^2 \times N = 2779484684180811697 \\
 C \times 277948 &= C^3 \times N = 222358774734464936 \\
 C \times 222358 &= C^4 \times N = 17788701978757195 \\
 C \times 177887 &= C^5 \times N = 1423096158300575 \\
 C \times 142309 &= C^6 \times N = 113847692664046 \\
 C \times 113847 &= C^7 \times N = 9107815413124 \\
 C \times 910781 &= C^8 \times N = 728625233040 \\
 C \times 728625 &= C^9 \times N = 58290018644 \\
 C \times 582900 &= C^{10} \times N = 4663201492 \\
 C \times 466320 &= C^{11} \times N = 373056119 \\
 C \times 373056 &= C^{12} \times N = 29844489 \\
 C \times 298444 &= C^{13} \times N = 2387559 \\
 C \times 238755 &= C^{14} \times N = 191005 \\
 C \times 191005 &= C^{15} \times N = 15280 \\
 C \times 15280 &= C^{16} \times N = 1222 \\
 C \times 1222 &= C^{17} \times N = 98
 \end{aligned}$$

$$\begin{aligned}
 C \times N &= 034743558552260146212 \\
 \frac{1}{2} C^2 \times N &= 74119591578154978 \\
 \frac{1}{4} C^4 \times N &= 284619231660115 \\
 \frac{1}{8} C^8 \times N &= 1301116487589 \\
 \frac{1}{16} C^{16} \times N &= 6476668738 \\
 \frac{1}{32} C^{32} \times N &= 33914193 \\
 \frac{1}{64} C^{64} \times N &= 183658 \\
 \frac{1}{128} C^{128} \times N &= 1018 \\
 \frac{1}{256} C^{256} \times N &= 6
 \end{aligned}$$

$$\begin{aligned}
 Z = \sqrt[10]{1.08} &= 034817964070697216507 \\
 \frac{1}{2} C^2 \times N &= 434298 \times 1389742342090405848 \\
 \frac{1}{4} C^4 \times N &= 4447175494689299 \\
 \frac{1}{8} C^8 \times N &= 18974615444008 \\
 \frac{1}{16} C^{16} \times N &= 91078154131 \\
 \frac{1}{32} C^{32} \times N &= 466320149 \\
 \frac{1}{64} C^{64} \times N &= 2487040 \\
 \frac{1}{128} C^{128} \times N &= 13643 \\
 \frac{1}{256} C^{256} \times N &= 76
 \end{aligned}$$

$$X = \sqrt[10]{1.08} = 001394208583747514194$$

$$Z - X = \frac{1}{10} = .033423755486949702313$$

$$Z + X = \frac{1}{10} = .036212172654444730701$$

$$C = .008 \times N = 003474355855226014621$$

$$\frac{1}{2} C^2 \times N = 74119591578155$$

$$\frac{1}{4} C^4 \times N = 2846192317$$

$$\frac{1}{8} C^8 \times N = 130112$$

$$\frac{1}{16} C^{16} \times N = 6$$

$$Z = \sqrt[10]{1.08} = 003474429977663915211$$

$$\frac{1}{2} C^2 \times N = 000013897423420904058$$

$$\frac{1}{4} C^4 \times N = 444717549459$$

$$\frac{1}{8} C^8 \times N = 18974615$$

$$\frac{1}{16} C^{16} \times N = 911$$

$$X = \sqrt[10]{1.08} = 0000138327868157429053$$

$$Z - X = \frac{1}{10} = 003460532109506486158$$

$$Z + X = \frac{1}{10} = 003488327845821344264$$

$$\log^{-1} 992 = 2.996511672154178655736$$

$$\log. 92 = 1.963787827345555269299$$

Hence 'tis evident, that after the first Series for 108 and 92 is Compos'd, with how much ease all the others are thence deriv'd, even with little more labour than transcribing: Have instanc'd in the next higher, i. e. making $C = .008$, hence the \log^m of $1008 = 144 \times 7$, and of $992 = 32 \times 31$, are obtain'd. Putting $C = .0008$ the Logarithms of $10008 = 72 \times 139$, and of $9992 = 8 \times 1249$, are got; if C be put $= .00008$, the Logarithms of $100008 = 216 \times 463$, and of $99992 = 8 \times 29 \times 431$, are made; and if C be $.000008$, the Logarithms of $1000008 = 72 \times 17 \times 19 \times 43$, and of $999992 = 8 \times 49 \times 2551$, are found: So that the Logarithms of Ten Primes are obtained from this One Series, viz. 3, 23, 7, 31, 139, 1249, 463, 431, 43, and 2551. Many other Series are as prolifick as this; none I have met with, whence fewer than Six, or Four at least, useful Logarithms may not be deduced. So that, though the labour in raising the first Series may be Considerable, yet the advantage of gaining so many Logarithms thence, with so great ease, makes abundant Compensation.

Shall

Shall subjoin another Instance for variety, whereby the Convenience of this Method will be farther illustrated, though all be perform'd by Division. Let the Three Numbers be 1899 = 9×211 = A, 1900 = B, 1901 = C; then $\frac{B-A}{B} = \frac{1900-1899}{1900} = \frac{1}{1900} = C$, which Fraction must be multiply'd into .434294 &c. = N, or .434294 &c. divided continually by 1900, and the several Powers by their proper Indices, &c.

From this Series five or six useful Logarithms are obtain'd, viz. 211, 1901, 227, 19001, 2111 and 27143.

1900) N=4342 &c. =	.00022857604310697464613217
1900) 228576 &c. =	12030318058261823481
1900) 120303 &c. =	6331746346453591
1900) 633174 &c. =	3332498077081
1900) 3332498 &c. =	1753946356
1900) 175394 &c. =	923130
1900) 923130 &c. =	486
1	.00022857604310697464613217
3) 6391 &c. =	2110582115484530
5) 17539 &c. =	350789271
7) 486 =	69
1 = Z = $\sqrt{\frac{1}{1900}}$ =	.00022857606421279930887087
2) 1203 &c. =	.00000006015159029130911740
4) 33324 &c. =	833124519270
6) 923130 =	153855
2 = X = $\sqrt{\frac{1}{1900}}$ =	.00000006015159862255584865
3 = Z x X =	.00022863621581142186471952
4 =	190000 = 3.27875360095282896153633347
5 = 4-3 =	1899 = 3.27852496473701753967151395
6 =	9 = .95424250943932487459005581
7 = 5-6 =	211 = 2.32428245529769266508155814
8 = 1-2 =	Z-X = $\frac{1}{1900}$ = .00022851591261417675302223
9 = 4+8 =	1901 = 3.27898211686544313828935569
19000) 4342 &c. =	.00002285760431069746461322
	2110582115484
	3508
1	Z = $\sqrt{\frac{1}{1900}}$ = .00002285760433180328580314
	60151590291309117
	83312452
2 =	X = .0000000060151590374621569
3 = 1+2 =	Z+X = $\frac{1}{1900}$ = .00002285820584770703201883
4 =	190000 = 4.27875360095282896153633347
5 = 4-3 =	18999 = 4.27873074274698125450431464
6 =	9 = .95424250943932487459005581
7 = 5-6 =	2111 = 3.32448823330765637991425883
8 = 1-2 =	Z-X = .00002285700281589953958745
9 = 4+8 =	19001 = 4.27877645795564486107592092
190000) 4342 &c. =	.00000228576043106974646132
	3) = 2110582115
1	Z = $\sqrt{\frac{1}{1900}}$ = .00000228576043109085228247
2) =	.00000000000601515902913091
4) =	8331
2	X = .00000000000601515902921422
3 =	Z+X = $\frac{1}{1900}$ = .0000022857664624988149669
4 =	190000 = 5.27875360095282896153633347
5 = 4-3 =	189999 = 5.27875131518638271165483678
6 =	27 x 31 = 837 = 2.92272545799325999155176781
7 = 5-6 =	227 = 2.35602585719312272010304897
Z-X = $\frac{1}{1900}$ =	.00000228575441593182306825
190000 =	5.27875360095282896153633347
190001 =	5.27875588670724489335940172
7 =	84509804001425683071221626
27143 =	4.43365784669298806264718546

The

The way to find convenient Numbers by which Logarithms may be made without any other Division than by the Indices of the Powers. If the Fraction be intended to begin with an Unit and Cyphers following, take such a Product of the Number proposed as begins with an Unit (and Cyphers if it may be) subtract such Products from that successively as begin with the same Figure; or the next less than that which immediately follows the Unit or Cyphers, subtracting this Factor always from the former, multiply'd by 10, 100, &c. till a convenient Number be found. If it be design'd to consist as much as may be of nines, choose such a Factor of the proposed Number as begins with, or is the nearest to nine, but less, add such Products to that successively, as will make the following Figures as near as possible nines, &c. Ex. gr.

Rank 1	Rank 2	Rank 3	Rank 4
for 251 in 4=1004	251x3=753	for 257 in 4=1028	257x3=771
subt. 1 251	9=2259	1=257	8=2056
21x19=435=100149	39=9789	39=10023	38=9766
5=1255	8=2008	.08=2056	9=2313
5x797p=3985=1000235	398=99898	28x139=3892=1000244	389p=99973
9=2259	4=1004	9=2313	1=257
39841p=10000091	3984=999984	167x233=38911=19000137	3x1897p=3891=999987
	06=1506	.05=12	
	6 x 23 x 2887=398406=99999906	5x59x1319p=389104=9999994	

Convenient Numbers found in	Rank 1	1004=4x251	The Powers of these are Raised by continual Multiplication of	.004	The rest of these Ranks (also the whole fourth Rank) are composed of greater Prime Numbers.
		1000		.00149	
		100149=21x19x251		.00102	
	Rank 2	100000		.000016	
		1000000		.0023	
		99898=2x199x251		.000244	
	Rank 3	1000000		.0000187	
		999984=48x83x251			
		10023=39x257			
		10000			
		1000244=28x139x257			
		1000000			
		10000127=167x233x257			
		10000000			

Tho' this Method seem to be more confined, not admitting of so great variety as the other, yet at the beginning of the Table where the other is deficient, 'tis most Commodious and Expeditious, and performs well to 1000 or upwards, and affords excellent Expedients for many great Primes; but where it fails, there the other becomes more convenient, and performs with greater Ease, Expedition and Exactness than before: So that both together render this Art, *Viz. Logarithmetica* most compleat.

Altho' the Table of Logarithms to above 50 Figures be continued no further then to 200, yet even these may be rendered serviceable for finding the *Logarithms* of almost any Natural Number to 50 Places, and the Natural Number answering to a Log. given to so many Figures, by the Assistance of the Series exhibited by Mr. Halley in Phi. Tran. N^o 216. herewith also Printed, as will appear by the following Examples.

Let the Log. of the Arch of 180^d be sought, viz. of 3,1415926535897932384626433,83279,50288, 41971,69399,37510,582+ seek out such a Product or Quotient hereof as has its first 5 or 6 Figures or more if it may be divisible by some of these Primes under 200, such will be part hereof be, viz. the Arch of 7^d 3'0=,13089,96938,99574,71826,92768,07636,64595,35082,15391,64062,941=4, the nearest Num. greater then, 130899 is 1309=b=7811817, by the Log. of which the Log. of the other, i. e. of 4 is thus obtain'd.

$$\text{But } \frac{b-a}{b} \text{ as in pag. 16} = \frac{x}{z} = \frac{00000,02061,00425,28173,07231,92363,35404,64917,84508,35937,05908}{2617,99693,89957,47182,69276,80763,66459,53508,21539,16406} = \frac{x}{z}$$

$$\frac{x}{z} = .00000,11692,16131,31889,13910,04335,04187,61524,72054,13287,38800 = \text{The first Term of the Series.}$$

$$\frac{x^3}{z^3} = 1598\ 39604\ 27255\ 25451\ 26886\ 42362\ 97548\ 1461$$

$$\frac{x^5}{z^5} = 21\ 85113\ 46274\ 25090\ 74290\ 0620$$

$$\frac{x^7}{z^7}$$

$$29871\ 95111\ 4724 \quad \text{The Powers of } \frac{x}{z}$$

The Powers of $\frac{x}{z}$ divided by the proper Indices,

$$\frac{x}{z} =$$

$$\frac{x^3}{z^3}$$

$$.00000,11692,16131,31889,13910,04335,04187,61524,72054,13287,38800$$

$$\frac{x^5}{z^5}$$

$$53\ 27986\ 80908\ 50881\ 70896\ 21412\ 09918\ 27154$$

$$\frac{x^7}{z^7}$$

$$43702\ 26925\ 48501\ 81485\ 80124$$

$$\frac{x^9}{z^9}$$

$$426\ 74215\ 87846$$

$$\text{The Natural Logarithm of } \frac{b}{a} =$$

$$.00000\ 11692,16131\ 31942\ 41896,83243\ 98771\ 59345,42394\ 78907\ 33928$$

The Natural Logarithm of $\frac{b}{a}$ =	.00000.11692.16131.31942.41896.85243.98771.59346.42394.78907.33928
This being multiplied by the reciprocal of the Natural Logarithm of 10 = .868589638 and Produces	
1 = Briggs's Logarithm of $\frac{b}{a}$ =	.00000.10155.68227.96858.75524.23301.69298.10508.52149.41204.91075.
2 = The Logarithm of .17	9 .23044.89213.78273.92854.01698.94328.33703.00075.67378.42504.63974.
3 = The Logarithm of .77	9 .88649.07251.72481.87146.24162.29835.66043.51902.74586.79021.85011.
4 = $2d + 3d$ = the Logarithm of $\frac{b}{a} = .1309$ =	9 .11693.96465.50755.80000.25861.24163.99746.51978.41965.21546.48985.
5 = $4th - 1$ = the Logarithm of .130899693899, &c. } =	9 .11693.86309.82577.83141.50237.00862.30448.41469.73815.80341.57910.
6 = which is the length of the Arch of 7d 30 } =	1 .38021.12417.11606.02293.62445.87428.59438.95046.98508.57702.14888.
7 = $5th + 6$ = the Log. of 3 14159265, &c. } =	0 .49714.98726.94133.85435.12682.88292.89887.36516.78324.38043.72798.
8 = the Arch of 180d, or the Semiperipherie. } =	4 .03342.37554.86949.70231.25614.99214.33198.11367.66355.49630.46771.
9 = $7 - 8$ = the Log. of .000290882, &c. } =	6 .46372.61172.07184.15203.87067.89076.56689.25149.11968.88413.26027.
the length of the Arch of 0d 01	

To find a Natural Number answering to a Log. given, the whole extent of the Table, Viz. to 50 Places or upwards. By the common Tables of Logarithms find seven or more Figures of the Natural Number, if (as in the following Instance) five or more of them be commensurable by some of the Primes under 200, no other need be sought, but if not, search out such a Product or Quotient thereof as may have the Log. of five or more of its first Figures composed of these Primes, by help of which, all the rest may be discovered by the Series exhibited by Mr. Halley in *Ph. Tra.* and here in pag. 20. Let the Example be to find out the Interest of one Pound for one Day, at the rate of six per Cent. per Annum compounded Interest, which is to extract the Root of 1.06 taken as the 365th Power, i. e. $\sqrt[365]{1.06}$. The Log. of 1.06 is found by the Log. of 2 and .53 to be Log. 1.06 = 0.02530.58652.64770.24084.67311.86351.74961.94636.9282. 75704.63168. this being divided by 365. the Quotient is 0.00006.93311.37711.69958.99910.44346.16917.70396.26554.19933.43734.7069. 7069 = L, the Natural Number found by the Tables nearest to it, but somewhat greater is 1.00016 = b, which being compounded of 7x16x19x47, is convenient enough.

The Sum of the Logarithms of these } 1.00016 = 0.00006.94815.58728.03751.77247.12696.73825.86672.64357.99684.49976.8949.

Numbers is the Logarithm of

Out of which subtract the former Quotient = L

There will remain 1 =

Definitions.

Figure 1.

A Chord or Subtense is a Right-Line connecting the Extremities of an Arc, as FO is the Chord of the Arcs FE and FD . A Sine ($= s$) is half the Chord, or a Right-Line drawn from one end of an Arc falling perpendicularly on the Diameter that terminates in the other end, FR is the Sine of the Arcs FE , FD . The Radius ($= r$) is the Semidiameter, or Sine of $90^\circ = 1.000$. &c. the greatest of all Sines. The Co-sine ($= c s$) is that part of the Radius which is intercepted betwixt the Center and the Sine, or the Sine of the Complement, i. e. the difference of the Arc from a Quadrant or 90° , as $CR = FW$ is the Co-sine of the Arc FE , or the Sine of its Complement FB , and also of its Supplement or Difference from a Semicircle FA ; $E\beta$ is the double of the Co-sine of the Arc $D\beta$ or the Chord of its Supplement of βE , so $E\gamma$, $E\delta$, $E\epsilon$, $E\eta$, are the double Co-sines of the Arcs $D\gamma$, $D\delta$, $D\epsilon$, $D\eta$. The Versed Sine ($= v$) of any Arc less than 90° , is the Excess of the Radius above the Co-sine of the Arc, as $ER = EC - CR$ is the Versed Sine of the Arc FE . A Versed Sine of an Arc greater than 90° is the Sum of the Radius and the Co-sine, as $DR = DC + CR$ is the Versed Sine of FD . The Secant of an Arc is a Right-Line drawn from the Center through one end of the Arc till it meet with the Tangent, which is a Right-Line touching the Circle at the Extremity of that Diameter which cuts the other end of the Arc, so CH is the Secant, and EH the Tangent of the Arc FE . The Co-secant or Co-tangent of an Arc are the Secant or Tangent of the Complement of that Arc to 90 , so CI is the Co-secant, and BI the Co-tangent of the Arc FE .

A Method of computing the Natural Sine, Tangent or Secant of any Arch immediately, from the length of the Arch being given.

THE length of any Arch is readily obtain'd from the Proportion of the Diameter of the Circle to its Circumference exhibited by *Ven Centen* since prolonged and confirm'd to 74 places by *Abraham Sharp*, which is as 1,00, &c. to 3.1415926535897932384626433832795028841971693993751058209749445923078164062-. This Number the Radius being 1.0000, &c. is the just length of the Semicircle or Arch of 180°

180^d 00', whence any less Arch is easily got by Division, ~~versus~~
 part hereof = 6002908882086637215961539484614 + is the
 length of the Arch of 1^o Minute, which being multiply'd by the
 Number of Minutes contain'd in any other Arch serves readily
 to give its length, hence by Mr. *Newton's* Series published by
 Mr. *Halley* in *Phi. Transf.* N^o 219. The Sine, Co-sine, Tangent,
 &c. of any Arch are had. If the length of the Arch be put=A,
 then is the Natural

$$\text{Sine} = A - \frac{1}{6} A^3 + \frac{1}{120} A^5 - \frac{1}{5040} A^7 + \frac{1}{362880} A^9 - \frac{1}{39916800} A^{11} + \frac{1}{6227020800} A^{13} - \frac{1}{1307674368000} A^{15} + \frac{1}{355687428096000} A^{17} - \frac{1}{121645100408832000} A^{19} +$$

$$\text{Co-sine} = 1 - \frac{1}{2} A^2 + \frac{1}{24} A^4 - \frac{1}{720} A^6 + \frac{1}{40320} A^8 - \frac{1}{3628800} A^{10} + \frac{1}{479001600} A^{12} - \frac{1}{87178291200} A^{14} + \frac{1}{20922789888000} A^{16} - \frac{1}{6402373705728000} A^{18} + \frac{1}{24329020081766400000} A^{20}.$$

$$\text{Tangent} = A + \frac{1}{3} A^3 + \frac{2}{15} A^5 + \frac{17}{315} A^7 + \frac{62}{2835} A^9 + \frac{1382}{155925} A^{11} + \frac{21844}{6081075} A^{13} + \frac{929569}{638512875} A^{15} + \frac{6404582}{10854718875} A^{17} + \text{&c.}$$

$$\text{Co-tangent} = \frac{1}{A} - \frac{1}{3} A - \frac{1}{45} A^3 - \frac{2}{945} A^5 - \frac{1}{4725} A^7 - \frac{2}{93555} A^9 - \frac{1382}{638512875} A^{11} - \frac{1}{18243225} A^{13} - \frac{1}{162820783125} A^{15} - \text{&c.}$$

$$\text{Secant} = 1 + \frac{1}{2} A^2 + \frac{5}{24} A^4 + \frac{61}{720} A^6 + \frac{277}{8064} A^8 + \frac{50521}{3628800} A^{10} + \frac{540553}{95800320} A^{12} + \frac{199360981}{87178291200} A^{14} + \frac{3878302429}{4184557977600} A^{16} + \frac{240495800320}{879661671} A^{18} + \text{&c.}$$

$$\text{Co-secant} = \frac{1}{A} + \frac{1}{6} A + \frac{7}{360} A^3 + \frac{31}{15120} A^5 + \frac{127}{604800} A^7 + \frac{73}{3421440} A^9 + \frac{1414477}{653837184000} A^{11} + \frac{8191}{37362124800} A^{13} + \frac{118518239}{5335311421440000} A^{15} + \text{&c.}$$

Let the Sine and Co-sine of 0^d 05' be sought, the length of the
 Arch of 0^d 05' is = 00145444104332860798077=A.

If

Of Constructing the Natural Sines,

If the *Sine* and *Co-sine* of $29^{\circ} 55'$ be required, the num. of Minutes contained therein is 1795' which drawn into, 00290888, &c. make the length of the Arch = $A = .522144334554970265095$.

$A =$	.00145444104332860798077
$A^2 =$	211539874851880971
$A^3 =$	307672276285175
$A^4 =$	447491185523
$A^5 =$	650849548
$A^6 =$	946622
$A =$	.00145444104332860798077
$(120)A^1 =$	54237162
$1 - 6)A^3 =$	.00145444104332915035539
	51278712714196
The Sine of $\left. \begin{array}{l} 0 \text{ deg. } 05' \\ 24 \end{array} \right\} =$	.00145444053054202321343
$1 + \frac{1}{24} A^4 =$	.00000000000018645466105
$- 2)A^2 =$	.0000010576993742940486
$720)A^6 =$	1315
	.00000105769937425941801
Co-sine 0 deg. 05' or Sine of 89 deg. 55'	.99999894230081219524304

The Powers of the Arch of $29^{\circ} 55'$

$A =$	.5221.4433.4554.9702.65095
$A^2 =$	.2726.3470.6107.8527.15224
$A^3 =$	.1423.5466.7197.2746.43276
$A^4 =$	.0731.0020.6837.6958.371
$A^5 =$	.0388.1082.2854.4101.536
$A^6 =$	.0202.6485.1272.8468.213
$A^7 =$	.0105.8117.7282.7160.454
$A^8 =$	.0055.2490.1771.0918.38
$A^9 =$	.0028.8479.6158.7483.786
$A^{10} =$	.0015.0627.9970.6364
$A^{11} =$	.0007.8649.5552.92159
$A^{12} =$	.41056.41972.
$A^{13} =$	2.1442.5984.04
$A^{14} =$	1.1196.1312.69
$A^{15} =$	5845.995
$A^{16} =$	3052.454
$A^{17} =$	1593.82

The Series for the Sine.

The Series for the Co-sine.

The Powers drawn into the Co-efficients of the Series.

$A =$	.522144334554970265095
$(120)A^1 =$	323423523786751280
$362880)A^2 =$	7349724864276
$6227620800)A^3 =$	34434763
$35568742800)A^4 =$	45
$1 -$	522467766028516315459
$6)A^5 =$	023725777866212440546
$5040)A^6 =$	2099439937046834
$39916800)A^7 =$	19703371838
$130767436800)A^8 =$	44705
$-$	023727877325852903923
The Sine $29^{\circ} 55' \left\{ =$	.498739888702663411536

$1 + A^4 =$	1.003097070123938134276
24	
$40320)A^8 =$	137026333608431
$479001600)A^{12} =$	857333665
$2092278988800)A^{16} =$	1459
$1 +$	1.003097207151129077831
$2)A^2 =$	.136317353053926357612
$720)A^6 =$	28145626767842807
$3628800)A^{10} =$	415090379915
$87178291200)A^{14} =$	1284280
$-$	136345499095785864614

The Co-sine of $29^{\circ} 55'$ or the Sine of 60 deg. 05' .866751708055343213217
 Out of which subtract the Sine of 0 deg. 05' = .001454440530542023213
 There remains the Sine of 59 deg. 55' = 865297267524801190004
 Out of the Sine of 89 deg. 55' = 999998942300812195243
 Subtract the Sine of 29 deg. 55' = 498739888702663411536
 There remains the Sine of 30 deg. 05' = 501259053598148783707

Since these Series Converge the swiftest near the beginning and end of the Quadrant, for raising a Table, no more than the first and last thirty Degrees need be calculated, the intermediate are obtained from them by Subtraction only as above.

Tab. 1.

Tab. 1. The Powers of the Arch of 0 deg.
or $0' = .000290888$ &c. = a.

a^2	3437.7467707849392526104
$1 a$	.00029088820866572159615395
$2 a$	(7) 84615949940752388707429
$3 a$	(10) 2461378210281833777464
$4 a$	(14) 71598589843759141740070
$5 a$	(17) 20827185542642824237546
$6 a$	(21) 60583826940479859293603
$7 a$	(24) 17623120892830270901942
$8 a$	(8) 51263580676148497209095
$9 a$	(31) 1491197115267553744734
$10 a$	(35) 4337716576276702730969
$11 a$	(38) 126179060457273697238
$12 a$	(42) 367040008675401318839
$13 a$	(45) 1067676106322384037456
$14 a$	(49) 310574390003310804620
$15 a$	(53) 90342279655122726604
$16 a$	(56) 262795470373998561429
$17 a$	(60) 7644410.6225581513279
$18 a$	(63) 222366883658227396957
$19 a$	(67) 646839044539206886781
$20 a$	(70) 188157850961056798222

Tab. 2. The Quotients of these Powers divided
by the Co-efficients of the two Series for the
Sine and Co-sine.

a	.00029088820866572159615395
$1 a$	(7) 42307974970376194353715
$2 a$	(11) 410229701713563896291
$3 a$	(15) 2983274576823297572500
$4 a$	(19) 1735598795220235353125
$5 a$	(23) 841442040839998045744
$6 a$	(28) 349665097079965692499
$7 a$	(32) 1271418177531450744273
$8 a$	(37) 410933949313148628950
$9 a$	(41) 1195358403955322401614
$10 a$	(46) 31610514985488239849
$11 a$	(51) 766260506594135521550
$12 a$	(55) 1714585732949581802801
$13 a$	(60) 35625198168980720354
$14 a$	(65) 69086333858240978124
$15 a$	(69) 125622499370660678801
$16 a$	(74) 214919329681581817614
$17 a$	(79) 347319437881738804061
$18 a$	(84) 531742784843180879995
$19 a$	(89) 77338853076977551335

Tab. 3. The Logarithms of these
Quotients.

$\frac{x}{a}$	3.5362738827928158479613
a	96.4637261172071841520387
$2 a$	92.6264222387503871088637
$3 a$	88.6130271012379088236073
$4 a$	84.4746932271171305852186
$5 a$	80.2394493399882959324710
$6 a$	75.9250242068118364520009
$7 a$	71.5436522940047637733274
$8 a$	67.1042884142200043397249
$9 a$	62.6137720219878636171735
$10 a$	58.0774981391950477692023
$11 a$	53.499831571244068805008
$12 a$	48.8843764424035662048170
$13 a$	44.2341592073039135876492
$14 a$	39.51757288832897137620
$15 a$	34.8393921469843626237194
$16 a$	30.0989982815356219949031
$17 a$	25.3322754773645322184016
$18 a$	20.547290894684103006365
$19 a$	15.7257016057227654911389
$20 a$	10.8883377272659684479639

Tab. 4. The Logarithms of the Co-efficient Fac-
tions of the two Series of the Sine and Co-
sine, viz. of the Reciprocals of the Divisors,
which are to be added to the Logarithms of the
Powers.

$\frac{1}{1}$	99.6389700043360188047863
$\frac{1}{2}$	99.2218787496163563674912
$\frac{1}{3}$	98.6197887582883939770638
$\frac{1}{4}$	97.9208187539523751722775
$\frac{1}{5}$	97.1426675035587315397687
$\frac{1}{6}$	96.2975694635544747090565
$\frac{1}{7}$	95.3944794765625311234153
$\frac{1}{8}$	94.4402369671232062488252
$\frac{1}{9}$	93.4402369671232062488252
$\frac{1}{10}$	92.3988412819649812080705
$\frac{1}{11}$	91.3196630359173563803525
$\frac{1}{12}$	90.2057196836105196111460
$\frac{1}{13}$	89.0595916479322815852201
$\frac{1}{14}$	87.8835003888766003431388
$\frac{1}{15}$	86.679380462226755622838
$\frac{1}{16}$	85.4489314848424016337436
$\frac{1}{17}$	84.1936589797390955639398
$\frac{1}{18}$	82.9149053787862666024035
$\frac{1}{19}$	81.6138753831222854071898

A little to facilitate the Operation in the preceding Table,
the Powers of the Arch of one Minute, and their Quotients,
being

being divided by the respective Co-efficients of each Member of both the Series for the Sine and Co-sine, and the Logarithms of those Quotients and Co-efficients, so that the Powers of the Number of Minutes contain'd in any Arch being multiplied respectively by those Quotients, produce the several Members of the Series, whereby the Sine and Co-sine are Composed.

These Tables need no Explication, each Table and Number as far as needful having a proper Title prefix'd, only the small Figures in these two Tables, enclosed in a Parenthesis denote the Number of Cyphers that must precede the first Figure of the following Number.

The Use of the First Table is principally to compose the Second, though thereby in the Tangent, Co-tangent, Secant, and Co-secant of 1' may be easily made from their proper Series but the Sine and Co-sine most readily from the 2d to 23 Figures: But the chief Design and Use of the Second Table is express'd above:

Shall exemplify in making the Sine and Co-sine of $44^{\circ} 37'$ which being so very near $45^{\circ} 0'$ must necessarily be as Troublesom and Laborious as any that need be propos'd.

The Number of Minutes contain'd in $44^{\circ} 37'$ are 2677, call this Number a , the Powers hereof must be raised, which (since its consists only of Four Figures) is perform'd with much more Ease and Expedition than the Powers of the Arch can be, which must consist of so many Places as are intended in the Sine, a due Account must be kept of the Number of Figures every Power extends to, tho' no more need be expressed in any, than are required in the Sine, fewer will suffice in most; the reason is, that after Multiplication with the respective Numbers, viz. those which answer the same Power in the Second Table, the Number of Cyphers preceding the first Figure of each Product may be rightly determined; in the adjoyning small Table of the Powers of 2677 the Number of Figures in each is express'd by small Figures before it, enclos'd in a Parenthesis.

The Powers of 2677 = a being the Number of Minutes contain'd in $44^{\circ} 37' \text{ min.}$

a	(4)	2677
a^2	(7)	7166329
a^3	(11)	19184262733
a^4	(14)	51356271336241
a^5	(18)	137480738367117157
a^6	(21)	368035936608772629289
a^7	(24)	985232202301684328607
a^8	(28)	263746660556160894768
a^9	(31)	706049810308842715294
a^{10}	(35)	189009534219677194884
a^{11}	(38)	505978523106075850705
a^{12}	(42)	135450450635496505234
a^{13}	(45)	36260085635122413
a^{14}	(48)	97068249245222700
a^{15}	(52)	25985170322946117
a^{16}	(55)	69562300954526755
a^{17}	(59)	186218279655268
a^{18}	(62)	498506334637152
a^{19}	(66)	133450145782366
a^{20}	(69)	357246340259393

The Powers of 2677 drawn into the respective Numbers in Table 2^d.

The Series for the Sine.

$$\begin{aligned} 2677 \times 2 &= A = 5354 \\ 120) A^2 &= 28661140387595692433 \\ 352800) A^3 &= 2901398369620122 \\ 6227020800) A^4 &= 62171025743 \\ 355687428096000) A^5 &= 400219 \end{aligned}$$

$$\begin{aligned} + 7810941387829503867559 \\ 6) A^6 &= .0786995437855323009621 \\ 5040) A^7 &= 344501313664126849 \\ 39916800) A^8 &= 15994241686980 \\ 1307674368000) A^9 &= 179522015 \\ &1216451 \&c. A^{10} = 709 \end{aligned}$$

$$\begin{aligned} = 0787339955163408346174 \\ \text{The sine of } 44 \text{ deg. } 37' &= 7023601432666095521385 \end{aligned}$$

The Series for the Co-sine.

$$\begin{aligned} 1-24) A^2 &= 1.0153209858637846816232 \\ 40320) A^3 &= 33533220691184292 \\ 479001600) A^4 &= 1037903309223 \\ 20922789888000) A^5 &= 8737199 \\ &24329 \&c. A^6 = 400 \end{aligned}$$

$$\begin{aligned} + 10153243392905450046974 \\ 2) A^2 &= .3031928679614810625085 \\ 720) A^3 &= 3096809096025457906 \\ 3628800) A^4 &= 225934135157361 \\ 87178291200) A^5 &= 3458075623 \\ &64023737 \&c. A^6 = 17314 \end{aligned}$$

$$\begin{aligned} - 3035025714648429333269 \\ \text{Co-sine } 44 \text{ deg. } 37' &= 7118217678257020713705 \\ \text{or the Sine of } 45 \text{ deg. } 23' \end{aligned}$$

A considerable part of the Labour both in raising the Powers and multiplying them by the Numbers in the Second Table in this Method, or by the Co-efficients of the Two Series in the former, may be saved, in working by the Logarithms, for which the Third and Fourth Tables may be very serviceable, especially when the Powers ascend high, as in the preceding Example. The Characteristicks of the Logarithm in the Third and Fourth Tables consist of Two Figures.

The Series for the Tangent.

$$\begin{aligned} A &= 52214433455 \\ \frac{1}{2} A^3 &= 4745155573 \\ \frac{1}{3} A^5 &= 517477838 \\ \frac{1}{4} A^7 &= 57104786 \\ \frac{1}{5} A^9 &= 6308902 \\ \frac{1}{6} A^{11} &= 697090 \\ &A^{13} = 77025 \\ &A^{15} = 8511 \\ &A^{17} = 940 \\ A^{19} - A^{21} &= 116 \end{aligned}$$

$$\text{The Tang. of } 29 \text{ deg. } 55' = 57541264016$$

The Series for the Co-tangent.

$$\begin{aligned} 1795 \times (\frac{1}{2} \text{ i.e. }) 3437.7 \&c. A = 1.91517925949022 \\ \frac{1}{2} A^3 &= 17404811151832 \\ \frac{1}{3} A^5 &= 316343704883 \\ \frac{1}{4} A^7 &= 8213930763 \\ \frac{1}{5} A^9 &= 223940260 \\ \frac{1}{6} A^{11} &= 6167059 \\ \frac{1}{7} A^{13} &= 170229 \\ \frac{1}{8} A^{15} &= 4702 \\ &A^{17} - A^{19} = 133 \\ &= 17729599069861 \end{aligned}$$

$$\begin{aligned} \text{The Co-tang. of } 29 \text{ deg. } 55' &= 173788326879161 \\ \text{or the Tang. of } 60 \text{ deg. } 05' \end{aligned}$$

Altho' the Series for the Tangent & Secant converge so slowly, that except near the beginning of the Quadrant (where they are of excellent Use) 'twere better to make the Sine and Co-sine first, and from thence deduce them by these known Proportions, as the $\left\{ \begin{smallmatrix} \text{Co-sine} \\ \text{Sine} \end{smallmatrix} \right\}$

: to the $\left\{ \begin{smallmatrix} \text{Sine} \\ \text{Co-sine} \end{smallmatrix} \right\}$:: so is the

Radius : to the $\left\{ \begin{smallmatrix} \text{Tangent} \\ \text{Co-tangent} \end{smallmatrix} \right\}$.

The Series for the Co-secant of 29 degs 55'

$$\begin{aligned} 1795 \times (\frac{1}{2} \text{ i.e. }) 3437.7 \&c. A = 1.91517925949022 \\ + \frac{1}{2} A^3 &= .08702405575932 \\ \frac{1}{3} A^5 &= 276800741772 \\ \frac{1}{4} A^7 &= 7957245427 \\ \frac{1}{5} A^9 &= 222190727 \\ \frac{1}{6} A^{11} &= 8155014 \\ \frac{1}{7} A^{13} &= 170146 \\ \frac{1}{8} A^{15} &= 4700 \\ &A^{17} = 35 \end{aligned}$$

$$\begin{aligned} \text{The Co-secant of } 29 \text{ deg. } 55' &= 2.00505318032775 \\ \text{or Secant of } 60 \text{ deg. } 05' \end{aligned}$$

And as the $\left\{ \begin{smallmatrix} \text{Sine} \\ \text{Co-sine} \end{smallmatrix} \right\}$: to the Radius ::

to the Radius : to the $\left\{ \begin{smallmatrix} \text{Co-secant} \\ \text{Secant} \end{smallmatrix} \right\}$. Yet the Two Series for the Co-tangent and the Co-secant are of much quicker Dispatch, as in the instance of the Tangent and Co-tangent and Co-secant of 29 deg. 55'. The Powers of the Arch of 29 deg. 55' or 1795' = 52214433455497 &c. = A may be seen before, and need not be repeated. To obtain A multiply the Number of Minutes, viz. 1795 by the reciprocal of ,0002908 &c. = 3437,74677, &c.

The Versed Sine of any Arch under 90 deg. is the difference of the Radius and the Co-sine of the said Arch; the Sum of the Radius and the Sine of any Arch is the Versed Sine of an Arch so much exceeding 90 deg. so that the Series for the Sine and Co-sine may be easily apply'd to the finding the Versed Sine of any Arch immediately, which is so plain and obvious as needs no Illustration.

1. The Sine of an Arc FR being given to find its Figure 1. Co-sine CR $CFq - FRq = CRq$, therefore $\sqrt{CFq - FRq} : = CR$ i. e. $\sqrt{rr - ss} : = cs$.

2. The Sine of an Arc FR being given, to find EV the Sine of half the Arc. CR is found by 1st and consequently ER ; then $\sqrt{FRq + ERq} : = FE$, but $\frac{1}{2} FE = EV$, therefore $\frac{1}{2} \sqrt{ss + vv} : = S \frac{1}{2} \text{ Arc}$.

3. To find the Sines of the double, triple, quadruple, quintuple, &c. of any Arc whose Sine is given successively. Let the Chords $D\beta$, $\beta\gamma$, $\gamma\delta$, $\delta\epsilon$, $\epsilon\eta$ be all equal, draw the Chords $D\gamma$, $D\delta$, $D\epsilon$, $D\eta$, and $E\beta$, $E\gamma$, $E\delta$, $E\epsilon$, $E\eta$ extended, draw the Radius $C\beta$, and make $\gamma\zeta = D\gamma$, $\delta\theta = D\delta$, $\epsilon\kappa = D\epsilon$ and $\beta\lambda = E\beta$, $\gamma\mu = E\gamma$, $\delta\pi = E\delta$, $\epsilon\rho = E\epsilon$, $\eta\sigma = E\eta$, then are the Triangles $EC\beta$, $DB\gamma$, $D\gamma\zeta$, $D\delta\theta$, $D\epsilon\kappa$, $E\beta\lambda$, $E\gamma\mu$, $E\delta\pi$, $E\epsilon\rho$, $E\eta\sigma$, all Isosceles and Aequiangular, In the Triangles $E\beta\lambda$, $E\gamma\mu$, which being largest, all their parts are most distinguishable, the the Angles $E\lambda\beta$, $E\mu\gamma$ are equal, the Angles $ED\beta$, $E\gamma\delta$ being subtended by the same diagonal $E\beta$ do both together make two right Angles, so also do the Angles $ED\beta$, $\beta D\lambda$, therefore the Angles $E\gamma\beta$, $\beta D\lambda$ are equal, but $\beta\lambda = E\gamma$, and $D\beta = \beta\gamma$ by Construction, therefore the Triangles $E\gamma\beta$, $\beta\lambda D$ are equal, consequently $D\lambda = E\gamma$; in the same manner may be prov'd $B\mu = E\delta$, $\gamma\pi = E\epsilon$, $\delta\rho = E\eta$ likewise $\delta\zeta = D\beta$, $\epsilon\theta = D\gamma$, $\eta\kappa = D\delta$. Therefore $C\beta : E\beta :: D\beta : D\gamma$ i.e. Radius : to double the Co-sine of an Arc :: so is the Chord of the Arc : to the Chord of double the Arc, and halving the two last Terms, :: $\frac{1}{2} D\beta : \frac{1}{2} D\gamma$ so is the Sine of the Arc : to the Sine of twice the Arc, again 2) $C\beta : E\beta :: D\gamma : D\zeta :: \frac{1}{2} D\gamma : \frac{1}{2} D\zeta$ i. e. $r : 2cs \text{ arc} :: s 2 \text{ arc} : s \text{ arc} + s 3 \text{ arc}$, (3) $C\beta : E\beta :: \frac{1}{2} D\delta : \frac{1}{2} D\theta$ i. e. $r : 2cs \text{ arc} :: s 3 \text{ arc} : s 2 \text{ arc} + s 4 \text{ arc}$, 4) $(\beta : E\beta :: \frac{1}{2} D\epsilon : \frac{1}{2} D\kappa$, i. e.

i. e. $r : 2 \text{ cs arc} :: s 4 \text{ arc} : s 3 \text{ arc} + s 5 \text{ arc}$, &c. again γ) $C\beta : E\beta :: \frac{1}{2} E\beta : \frac{1}{2} E\lambda$, i. e. $r : 2 \text{ cs arc} ::$ so is the Co-sine of the arc :: to the Sum of the Radius and the Co-sine of double the arc, (6) $C\beta : E\beta :: \frac{1}{2} E\gamma : \frac{1}{2} E\mu$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 2 \text{ arc} : \text{cs arc} + \text{cs } 3 \text{ arc}$, (7) $C\beta : E\beta :: \frac{1}{2} E\delta : \frac{1}{2} E\pi$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 3 \text{ arc} : \text{cs } 2 \text{ arc} + \text{cs } 4 \text{ arc}$, 8) $C\beta : E\beta :: \frac{1}{2} E\epsilon : \frac{1}{2} E\zeta$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 4 \text{ arc} : \text{cs } 3 \text{ arc} + \text{cs } 5 \text{ arc}$, (9) $C\beta : E\beta :: \frac{1}{2} E\eta : \frac{1}{2} E\theta$, i. e. $r : 2 \text{ cs arc} :: \text{cs } 5 \text{ arc} : \text{cs } 4 \text{ arc} + \text{cs } 6 \text{ arc}$, &c. *Ex.* *Gr* : Suppose $D\beta = \beta\gamma$, &c. be 0 deg. 5 min. its Sine is = ,001454440530542 then Radius = 1, : 2 cs, i. e. 0 deg. 5 min. = 1,999997884601624 :: s 0 deg. 5 min. = ,001454440530542 : s 0 deg. 10 min. = ,002908877984363 (2) $r : 2 \text{ cs } 0 \text{ deg. } 5 \text{ min.} = 1,99 \text{ \&c.} :: s 0 \text{ deg. } 10 \text{ min.} = ,002908 \text{ \&c.} : s 0 \text{ deg. } 5 \text{ min.} + s 0 \text{ deg. } 15 \text{ min.} = ,005817749815290$ out of which subtract $s 0 \text{ deg. } 5 \text{ min.} = ,00145 \text{ \&c.}$ there rests $s 15' = ,004363309284748$ &c. again γ) $r : 2 \text{ cs } 5 \text{ min.} = 1,999997884601624 :: \text{cs } 0 \text{ deg. } 5 \text{ min.} = 999998942300812 : \text{cs } 0^{\circ} 10' + 1, 1,999995769205486$, (6) $r : 2 \text{ cs } 0 \text{ deg. } 5 \text{ min.} = 1,9999978 \text{ \&c.} :: \text{cs } 10 \text{ deg.} = 999995769205486 : \text{cs } 5 \text{ min.} + \text{cs } 15 \text{ min.} = 1,999989423021547$ out of which subtract $\text{cs } 5 \text{ min.} = 99999894 \text{ \&c.}$ rests $\text{cs } 15 \text{ min.} = 999990480720734$. (7) $r : 2 \text{ cs } 5 \text{ min.} = 1,9999978 \text{ \&c.} :: \text{cs } 15 \text{ min.} = 999990480720734 : \text{cs } 10 \text{ min.} + \text{cs } 20 \text{ min.} = 1,999978846063230$, out of which subtract $\text{cs } 10' = 999995769205486$ rests $\text{cs } 20 \text{ min.} = 999983076857744 \text{ \&c.}$ By this one Rule (after the first Sine is obtained) the whole Work may (if need) be accomplished, and it has these Advantages, the two first Terms are invariable, the first being the Radius = 1, Division is wholly excluded, the second being fix'd, a small Table of its Products to 10 or 100, turns Multiplication into Addition : From the fourth Term the Sine or Co-sine of such an Arc must be subtracted, as is so much less than the Arc of the third Term, as the Arch of which the Sine or Co-sine is sought exceeds it, *Viz.* so much as is the distance of the first in that Rank from the beginning of the Table.

4. Having the Sines of the first or last 30° of the Quadrant given to find the middle 30° , *viz.* all between 30° and 60° . Make the Arch $DL = 30^{\circ}$ draw the Radius CL and perpendicular thereto, the Chords MG less then 60° , and ea greater then 120° , draw MP , eb parallel to CB , and SG , ah to CD , then in the Triangles MQG , $ah\epsilon$ the Angles QMG , $he\alpha$ are = 30° , therefore drawing the Semicircles MQG , $eb\alpha$ 'tis manifest the Lines QG , ha being the Chords of 60° are equal to the Radius MK or KG , and eg or ga , in the Triangle MQG , (MGq , i. e.) $4 GKq - QGq = MQq$

$=MQq$, but because $GK = QG$, $3GKq = MQq$, therefore $GK \times \sqrt{3} = MQ$, and TG (i.e. PQ) $+ GK \times \sqrt{3} = MQ$, that is, if to the Sine of an Arc less then 30^d the Sine of its defect multiplied by $\sqrt{3}$ be added, the Sum will be the Sine of an Arc as much exceeding 30^d . The Sine of $11^d 0 \text{ min}$ $= 1,90808995376544$ multiplied by $\sqrt{3} = 1,7320508075688773$ produces 330490874533349 , which added to the Sine of $19^d 0 \text{ min}$ $= 325568154457155$ makes 656059028990504 the Sine of $41^d 0 \text{ min}$. In the Triangle eha , ($eaq, =$) $4egq - ahq = ehq$, but because $eg = ab$, $3egq = ehq$ and $eg \times \sqrt{3} = e b$ (i.e. $ek + kb$) $g^o eg \sqrt{3} - ek = kb = fa = fn$, that is, if the Sine of an Arc greater than 60^d be multiplied by $\sqrt{3}$, and out of the Product the Sine of an Arc wanting so much of 90^d be subtracted, the remainder is the Sine of an Arc so much exceeding 30^d *Ex. Gr.* if the Sine of $83^d = 992546151641321$ be drawn into $\sqrt{3} = 1,732$ &c. and from the Product $1,719140363490731$, the Sine of $67^d = 920504853452439$ be taken, there remains 798635510047292 the Sine of $53^d 0 \text{ min}$.

5. Having all the Sines under 60^d to find all the rest by Addition only, or having all above 30^d to find the Sines of the first 30^d , or having the Sines of the first and last 30^d to find all the intermediate by Subtraction only. In the Triangle MQG , $MK = QG$ (by 4) therefore $ZM + MK = SG$, that is, if to the Sine of any Arc ZM less then 60^d the Sine of the defect KM be added, the Sum is the Sine of an Arc so much exceeding 60^d , *ex. gr.* Sine $41^d = 656059028990504 +$ Sine $19^d 0 \text{ min} = 325568154457155$, makes Sine $79^d 0 \text{ min} = 981627183447661$. In the Triangle eha , $eg = ah$ (by 4) therefore $eg - em$ (i.e. bp) $= pa$ the Sine of the Arc Bn , that is, from the Sine of an Arc exceeding 60^d subtract the Sine of the Excess, and there will remain the Sine of an Arc wanting so much of 60^d *ex. gr.* Sine $67^d = 920504853452439 -$ Sine $7^d = 121869343405147 =$ Sine $53^d = 798635510047292$. By a continued Bisection (by the second) the Sine of an Arc a little less then $0^d 1 \text{ min}$ may be found, and from that by Proportion the Sine of $0^d 1 \text{ min}$. But the Sine of $0^d 1 \text{ min}$ may be obtained from the length of its Arc by the Series in the other Method with incomparably less labour and greater accuracy, from which (by the third) the Sines and Cosines of all Arcs under 30^d being computed, the rest are had (by the 5) by Subtraction; or having the first 30^d made (by the third) all to 60^d may be got (by 4th) and all the rest by Addition (by 5th); or the last 30^d being obtained (by third) the rest above 30^d are made (by fourth) and the first 30^d by Subtraction (by fifth.)

The Sines being made the *Tangents & Secants* are thus obtained. The Triangles CFR , CWF , CEH , CBI are Equiangular, then $CR : RF :: CE : EH$, i.e. *Co-sine : Sine :: Radius : Tangent*, and $(FR, \text{i.e.}) CW : (RC, \text{i.e.}) WF : CB : BI$, i.e. *Sine : Co-sine :: Rad :: Co-tang. : CR : CF :: CE : CH, i.e. *Co-sine : Rad :: Rad : Secant*, and $GV : CF :: CB : CI$, i.e. *Sine : Rad :: Rad : Co-secant*.*

A N E A S Y

Quadrature of the CIRCLE,

From 2 $\sqrt{3}$ or $\sqrt{12}$, Communicated by Mr. HALLEY,
Professor of Geometry in the University of Oxford.

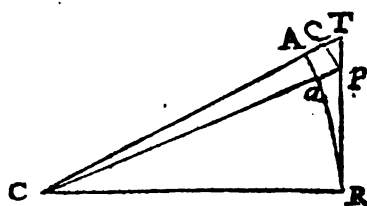
MAny have been the Attempts in all Ages to exhibit a Square Equal to the *Area* of a Circle, or which is all one, to find the *ratio* of the Diameter to the Circumference: This *Archimedes* near 2000 Years since shewed to be nearly a 7 to 22; and consequently the *Area* to the circumscrib'd Square as 11 to 14, contenting himself in small and integer Numbers: though his Method were capable of extreme Exactness, as has been since made appear by the most elaborate Calculus of *Ludolf Van Ceulen*. This Gentleman by the continual Bisection of an Arch performed by Extraction of the Square Root (Analogous to Mr. *Briggs's* Method for making the first Logarithm) carried his Work so far as to assure us, that the Diameter being 1, the Circumference was 3.1415.9265.3589.7932.3846.2643.3832.7950.288+, the last Figure being not an Unite less than the Truth. And this was look'd upon as so valuable a Performance, that it stands Engraven on his Tomb-Stone to perpetuate the Memory thereof. However it might be question'd, whether it were really so, unless by him that had taken the pains to examine it throughout. And most lovers of these Matters have chosen rather to take it upon Credit, than give themselves that Trouble.

Now since his time, as there have been many abortive Essays towards a perfect Quadrature, by those that knew not enough to see the impossibility thereof: So very much has been done towards facilitating the *Calculus* by Methods far differing from that of *Archimede*. And particularly the Doctrine of Fluxions, and of infinite Series, which may not improperly be called the Geometry of Curvelines (both invented by the most Illustrious Sir *Isaac Newton*) doth afford us many Solutions of this Problem. Amongst them it may not be improper to produce that, which of all performs it with the least Work, derived from the Tangent of 30 Degrees $= \sqrt{\frac{1}{3}}$. The Fluxion of the Tangent of an Arch, being to the Fluxion of the Arch it self, as the Square of the Secant to the Square of the Radius, as is thus demonstrated.

Let

54 *An easy Quadrature of the Circle, from $\sqrt{12}$.*

Let C be the Center of a Circle, CR the Radius $= r$, AR any Arch,



RT its Tangent $= t$, and CA its Secant. Draw the Line CA infinitely near to CA , and the Line TP will be the Fluxion of the Tangent $= \dot{t}$, and Aa the Correspondent Fluxion of the Arch $= \dot{a}$, With the Center C , and Radius CP draw the infinitely little Arch

QP . Now ob *similia Triangula* $TP : QP :: CT : CR$, and again, $QP : Aa :: CT : CR = CA$. Wherefore *ex aequo* $TP : Aa :: CT^2 : CR^2$: that is, $rr + tt$, is to rr , as \dot{t} to \dot{a} . If therefore $rr\dot{t}$ be divided by $rr + tt$, the Quotient will be $\dot{t} - \frac{t\dot{t}}{rr} + \frac{t^2\dot{t}}{r^2} - \frac{t^3\dot{t}}{r^3}$

$+ \frac{t^4\dot{t}}{r^4}$, &c. $= \dot{a}$ the Fluxion of the Arch. Its integral or flowing Quantity will be the Arch it self, viz. $t - \frac{t^3}{3rr} + \frac{t^5}{5r^3} - \frac{t^7}{7r^5}$

$+ \frac{t^9}{9r^7}$, &c. Now the Radius being Unity, and the Tangent of 30 Degrees $\sqrt{\frac{1}{3}}$, 'tis evident that $\frac{1}{3}\sqrt{\frac{1}{3}}$ is the Cube thereof, and $\frac{1}{9}\sqrt{\frac{1}{3}}$ the fifth Power: $\frac{1}{27}\sqrt{\frac{1}{3}}$ the 7th Power, &c. in *infinitum*.

Whence 'tis obvious, that the Arch of 30 gr. is $= \sqrt{\frac{1}{3}} - \frac{1}{9}\sqrt{\frac{1}{3}} + \frac{1}{45}\sqrt{\frac{1}{3}} - \frac{1}{189}\sqrt{\frac{1}{3}}$, &c. or $\sqrt{\frac{1}{3}} \times 1 - \frac{1}{9} + \frac{1}{45} - \frac{1}{189} + \frac{1}{729}$

&c. Six times this Arch is the Semi-circumference of the Circle, whose Radius is Unity; or the whole Circumference, when the Diameter is Unity. Therefore $\sqrt{12}$ or $2\sqrt{3} \times 1 - \frac{1}{9} + \frac{1}{45} - \frac{1}{189} + \frac{1}{729}$, &c. is equal to the said Circumference. Hence the Rule: Divide the Square Root of 12 continually by 3, and the several Quotients again by all the Odd Numbers successively, viz. the first quote by 3, the second by 5, the third by 7, &c. Then to the $\sqrt{12}$ add the $\frac{1}{5}$ of the second Quote, $\frac{1}{9}$ of the fourth, $\frac{1}{13}$ of the sixth, &c. in *infinitum*, and from the Sum subtract $\frac{1}{3}$ of the first Quote,

$\frac{1}{7}$ of the third, $\frac{1}{11}$ of the fifth, &c. in *infinitum*, and the Remainder shall be the Circumference sought, An.

An Example of this Procefs take as follows, the Square Root of 12 being 3.4641,0161,5138—

1)	3.4641 0161 5138	(3.4641 0161 5138 = √ 12	
3)	1.1547 0053 8379	(0.3849 0017 9460	
5)	3849 0017 9460	(769 8003 5892	
7)	1283 0005 9820	(183 2857 9974	
9)	427 6668 6607	(47 5185 4067	
11)	142 5556 2202	(12 9596 0200	
13)	47 5185 4067	(3 6552 7236	
15)	15 8395 1356	(1 0559 6757	
17)	5 2798 3785	(3105 7870	
19)	1 7599 4595	(926 2873	
21)	5866 4865	(279 3565	
23)	1955 4955	(85 0215	
25)	651 8318	(26 0733	
27)	217 2773	(8 0473	
29)	72 4258	(2 4974	
31)	24 1419	(7788	
33)	8 0473	(2438	
35)	2 6824	(766	
37)	8941	(242	
39)	2980	(76	
41)	993	(24	
43)	331	(8	
45)	110	(2	
47)	37	(1	
		+ 3.5462 3317 2181 0.4046 4051 8591	
		— 0.4046 4051 8591	
		3.1415 9265 3590	

This Work being to be perform'd in little more than half an hours time is more than sufficient to exhibit the Circumference of the Globe of the Earth so truly, as not to err the breadth of a Grain of Sand in the whole, and the Compendium of this Method has tempted the ready Pen of the most Incomparable Mr. SHARP to continue it to double the famous Number of *Van Ceulen*. Which is a degree of Exactness far surpassing all belief; for it is more than sufficient to give the Number of Grains of Sand that may be comprehended within the Sphere of the fix'd Stars, it being greater than the Cube of $12000 \times 5280 \times 8000 \times 100000 \times 100000$. which consists but of 65 Places, taking all the Dimensions with the most. So that here you have the *Dimensio Circuli*, and the *Arenarius* of *Archimede* both in one. Hence it appears, that *Van Ceulen's* Number is true. And all future *Squarers* of the Circle may please to square their Work by this Rule, and not expose themselves by obtruding their false reasoning on the World.

The

The QUADRATURE of the CIRCLE.

The Affirmative Part consisting of the Square Root of 12 or $2\sqrt{3}$, and its Quotients made by a continual Division by 9, and those again divided by 1, 5, 9, 13, 17, 21, 25, &c. respectively as is expressed before each.

1) $\sqrt{12}$ (or $2\sqrt{3}$)	3.4641 0161 5137 7545 8705 4892 6830 1174 4733 8856 1050 7620 7612 5611 1613 9589 0386 6034
9 x 5) $2\sqrt{3}$	(769 8703 5891 9501 0193 4553 1707 3359 4327 4196 8023 3502 6835 8346 9146 9768 6453 0356
9 x 9) $2\sqrt{3}$	(47 5185 4067 4043 2727 9910 6895 5145 6439 9041 7779 2191 5236 7799 1922 6528 9287 2244
9' x 13) $2\sqrt{3}$	(3 6552 7235 9541 7902 1531 5915 0325 8187 6895 5213 7560 8864 5676 8609 4548 3791 3250
9' x 17) $2\sqrt{3}$	(3105 7869 7215 9691 0326 2136 5719 9061 6991 1227 3151 5785 8613 0666 1011 3001 8773
9' x 21) $2\sqrt{3}$	(279 3565 0014 1347 8706 5906 4641 4730 4173 8046 9913 6340 5272 0747 7499 4291 1741
9' x 25) $2\sqrt{3}$	(26 0732 7334 6525 8012 6151 2699 8708 1722 8884 3774 6058 4492 0603 1233 2800 5096
9' x 29) $2\sqrt{3}$	(2 4974 3997 5720 8621 8980 0067 0374 3460 0467 8522 4718 2422 6111 1102 8046 0848
9' x 33) $2\sqrt{3}$	(2438 5777 5407 0875 5388 6201 8319 3805 8631 5411 2851 2761 8037 8144 7182 9453
9' x 37) $2\sqrt{3}$	(241 6608 5851 1528 2065 5389 3707 3260 0404 9274 9922 1985 4039 7834 1612 7243
9'' x 41) $2\sqrt{3}$	(24 2315 7659 8716 9224 4036 3325 6668 3509 4371 7471 8735 6638 1354 6448 9724
9'' x 45) $2\sqrt{3}$	(2 4530 7318 6536 7746 6186 3941 6107 1663 9183 3126 7822 6227 5643 3097 7034
9'' x 49) $2\sqrt{3}$	(2503 1359 0462 9361 8998 6116 4908 8945 2977 8890 4879 8594 6494 2152 7861
9''' x 53) $2\sqrt{3}$	(257 1355 5414 4316 0022 9181 7778 9011 1521 8376 5910 0903 8528 7558 6719
9''' x 57) $2\sqrt{3}$	(26 5656 6153 9276 3121 2761 4702 3036 2398 9422 9226 5785 3883 0878 3813
9''' x 61) $2\sqrt{3}$	(27581 8343 8504 0979 8046 2728 6544 7462 1852 6531 7212 6905 8943 6171
9''' x 65) $2\sqrt{3}$	(2876 0545 3561 9657 7232 1754 6118 3401 8568 3963 1367 4771 3838 5694
9''' x 69) $2\sqrt{3}$	(301 0363 0900 3667 8776 3146 6179 8585 6491 8611 2784 0314 4926 7423
9''' x 73) $2\sqrt{3}$	(31 6156 8479 0339 5487 9234 3763 1814 9311 9306 2073 2092 0242 4478
9''' x 77) $2\sqrt{3}$	(3 3303 6795 0497 5282 2776 5138 1129 1341 6638 0131 8099 1598 5171
9''' x 81) $2\sqrt{3}$	(3517 6725 9517 5715 6863 9116 0969 7439 3738 1029 0114 7260 7486
9''' x 85) $2\sqrt{3}$	(372 4594 5125 3899 3079 7082 8808 5611 2284 5050 1306 2651 1381
9''' x 89) $2\sqrt{3}$	(39 5244 1118 1749 6144 5383 3269 3229 6779 1292 4608 0306 3005
9''' x 93) $2\sqrt{3}$	(4 2027 1516 7473 9733 4596 9128 9961 0984 2271 2432 5181 9125
9''' x 97) $2\sqrt{3}$	(4477 1192 5017 3648 5762 3013 7418 5361 3808 9636 5534 8429
9''' x 101) $2\sqrt{3}$	(477 7563 9967 6175 9206 8222 5885 1463 3337 1501 5838 1515
3.462 3217 2182 1216 8216 8891 2068 8337 2605 8456 4289 2592 5926 3028 6006 8370 3313 5867.	

The QUADRATURE of the CIRCLE.

The Negative Part consisting of $\frac{1}{3}$, and its Quotients, made by a continual Division by 9, and those again divided respectively by 3, 7, 11, 15, 19, 23, 27, &c. as is expressed against each.

3×3	$2\sqrt{3}$	(	3849	0017	9459	7505	0967	2765	8536	6797	1637	0984	0416	7513	4179	1734	5734	8843	2265	1782	
3×9	$\times 7$	$2\sqrt{3}$	(	183	2857	9974	2738	3879	3941	2311	2704	6268	4332	5719	8453	0199	0082	5987	3754	4393	5799
3×9	$\times 11$	$2\sqrt{3}$	(	12	9596	0200	2011	8016	7248	3698	7766	9938	1720	4848	8779	5064	5763	4160	7235	1523	7885
3×9	$\times 15$	$2\sqrt{3}$	(	1	0539	6757	0534	2949	5109	1264	3447	6809	7769	8172	8715	3671	9284	4264	9478	4206	3828
3×9	$\times 19$	$2\sqrt{3}$	(	926	2873	4257	3942	9395	5374	0653	3053	4892	0892	3571	5234	3796	8795	1708	6533	8932	
3×9	$\times 23$	$2\sqrt{3}$	(	85	0215	4352	1279	7867	2232	4021	3178	8226	8101	2308	4073	2039	3271	0543	3045	1400	
3×9	$\times 27$	$2\sqrt{3}$	(	8	0473	0658	8433	8892	7824	4660	4539	5593	4840	8572	4092	1139	5247	8775	7037	1943	
3×9	$\times 31$	$2\sqrt{3}$	(	7787	7160	5332	3118	6563	6580	0439	3121	9500	7281	2008	9142	5346	5687	9713	2769		
3×9	$\times 35$	$2\sqrt{3}$	(	766	4101	5127	9418	0204	9949	1471	8053	2712	7700	6896	1153	7097	5988	3400	3542		
3×9	$\times 39$	$2\sqrt{3}$	(	76	4226	6465	7491	8260	0422	2796	3338	6452	8403	2026	6781	7089	5041	5723	6820		
3×9	$\times 43$	$2\sqrt{3}$	(	77015	0884	1452	6646	3608	4467	8475	9875	0924	3337	5722	1877	2368	5305	4873			
3×9	$\times 47$	$2\sqrt{3}$	(	7828	9569	7830	8855	1836	1506	7193	0445	5332	7879	9602	0464	9530	8271	1537			
3×9	$\times 51$	$2\sqrt{3}$	(	801	6579	0409	6985	1836	1506	7193	0445	5332	7879	9602	0464	9530	8271	1537			
3×9	$\times 55$	$2\sqrt{3}$	(	82	5950	5678	5749	9886	1494	7528	9803	5822	1660	3595	3623	6618	3276	4219			
3×9	$\times 59$	$2\sqrt{3}$	(	8	5550	4354	6546	6089	9024	8802	4367	6026	7780	2632	2880	0403	0282	8686			
3×9	$\times 63$	$2\sqrt{3}$	(	8902	0735	3167	9892	9528	1621	4175	8175	6595	3219	2327	9054	2833	6671				
3×9	$\times 67$	$2\sqrt{3}$	(	930	0673	8390	6854	4876	0766	4167	6227	3042	0187	0840	2289	2434	8607				
3×9	$\times 71$	$2\sqrt{3}$	(	97	5188	0238	1469	8758	5244	6790	6584	0895	3916	3396	2368	3567	8180				
3×9	$\times 75$	$2\sqrt{3}$	(	10	2575	3328	7532	3869	4151	6625	3877	7332	3152	6805	9745	4123	4297				
3×9	$\times 79$	$2\sqrt{3}$	(	1	0820	1827	9275	5682	4277	6015	3362	6300	8771	3798	0985	8029	8977				
3×9	$\times 83$	$2\sqrt{3}$	(	1144	3031	3337	0413	5365	3688	3688	9528	4729	5033	5338	5253	4965					
3×9	$\times 87$	$2\sqrt{3}$	(	121	2990	5500	6059	1615	909	5205	8532	3924	0725	1383	2664	1637					
3×9	$\times 91$	$2\sqrt{3}$	(	12	8852	4760	1376	2479	3549	8758	1309	3017	5754	6850	2370	9185					
3×9	$\times 95$	$2\sqrt{3}$	(	1	3714	1231	7807	2965	6369	5189	4618	8847	4846	4550	7269	8872					
3×9	$\times 99$	$2\sqrt{3}$	(	1462	2241	3234	285	3936	0317	6193	9327	1728	8535	1504	6457						
3×9	$\times 103$	$2\sqrt{3}$	(	156	1598	5879	3830	9643	0538	7748	8665	0087	5474	6277	1952						

4046 4051 8598 3284 4370 6247 8274 5156 6280 4835 0483 7070 4457 1236 3286 4918 0169 2298

And we are assured, that the last Figure of this great Number is true; the whole having been independently wrought over again by the curious Hand of Mr. John Mason, whose early Performances testify a Genius capable of all things in the Mathematics.

$3 \times 9^{14} \times 219) 2\sqrt{3} (155\ 9300\ 2328\ 3985\ 0291$
 $3 \times 9^{11} \times 223) 2\sqrt{3} (17\ 0147\ 8579\ 9296\ 8148$
 $3 \times 9^{10} \times 227) 2\sqrt{3} (1\ 8572\ 1842\ 0574\ 3616$
 $3 \times 9^{17} \times 231) 2\sqrt{3} (2027\ 8431\ 3472\ 1092$
 $3 \times 9^{10} \times 235) 2\sqrt{3} (221\ 4807\ 3626\ 0318$
 $3 \times 9^{10} \times 239) 2\sqrt{3} (24\ 1971\ 0507\ 7255$
 $3 \times 9^{10} \times 243) 2\sqrt{3} (2\ 6443\ 1098\ 0093$
 $3 \times 9^{11} \times 247) 2\sqrt{3} (2890\ 5423\ 6690$
 $3 \times 9^{11} \times 251) 2\sqrt{3} (316\ 0581\ 0519$
 $3 \times 9^{11} \times 255) 2\sqrt{3} (34\ 5681\ 5660$
 $3 \times 9^{11} \times 259) 2\sqrt{3} (37813\ 6848$
 $3 \times 9^{11} \times 263) 2\sqrt{3} (4137\ 6191$
 $3 \times 9^{11} \times 267) 2\sqrt{3} (452\ 8480$
 $3 \times 9^{11} \times 271) 2\sqrt{3} (49\ 5738$
 $3 \times 9^{11} \times 275) 2\sqrt{3} (5\ 4281$
 $3 \times 9^{11} \times 279) 2\sqrt{3} (5945$
 $3 \times 9^{11} \times 283) 2\sqrt{3} (651$
 71
 8

175 0296 7648 3643 1895

The Sum of $\left. \begin{array}{l} \text{Negat.} \\ \text{Affirm.} \end{array} \right\}$ part

$4046\ 4051\ 8592\ 3284\ 4370\ 6247\ 8274\ 1156\ 6280\ 4835\ 0483\ 7070\ 4457\ 1236\ 3286\ 4918\ 0162\ 2239$
 $3 \times 9^{10} \times 107) 2\sqrt{3} (16\ 7024\ 5634\ 0357\ 8290\ 0273\ 6176\ 6700\ 1580\ 7034\ 1502\ 1299$
 $3 \times 9^{17} \times 111) 2\sqrt{3} (1\ 7889\ 5178\ 0198\ 4861\ 8948\ 2253\ 1568\ 1239\ 1748\ 4024\ 7527$
 $3 \times 9^{18} \times 115) 2\sqrt{3} (1918\ 5859\ 6716\ 9390\ 9858\ 2154\ 6863\ 8706\ 8529\ 5388\ 1619$
 $3 \times 9^{10} \times 119) 2\sqrt{3} (206\ 0106\ 3139\ 5406\ 1282\ 6281\ 7823\ 8516\ 6088\ 6059\ 4198$
 $3 \times 9^{10} \times 123) 2\sqrt{3} (22\ 1476\ 7762\ 9677\ 8042\ 1733\ 4165\ 3462\ 9416\ 9323\ 4607$
 $3 \times 9^{11} \times 127) 2\sqrt{3} (2\ 3831\ 3066\ 3561\ 1285\ 3730\ 6826\ 1921\ 2089\ 4861\ 5798$
 $3 \times 9^{11} \times 131) 2\sqrt{3} (2507\ 0703\ 5006\ 1605\ 8035\ 4509\ 6916\ 0250\ 5214\ 0972$
 $3 \times 9^{11} \times 135) 2\sqrt{3} (276\ 7787\ 7848\ 4008\ 5269\ 6659\ 0696\ 2957\ 0521\ 0261$
 $3 \times 9^{14} \times 139) 2\sqrt{3} (29\ 8682\ 1350\ 5468\ 5460\ 7553\ 1370\ 1038\ 5308\ 0244$
 $3 \times 9^{11} \times 143) 2\sqrt{3} (3\ 2258\ 5988\ 9091\ 0084\ 7280\ 4087\ 3694\ 1381\ 5039$
 $3 \times 9^{10} \times 147) 2\sqrt{3} (3486\ 7570\ 9856\ 3977\ 4120\ 2558\ 1963\ 9166\ 6932$
 $3 \times 9^{17} \times 151) 2\sqrt{3} (377\ 1547\ 4134\ 5772\ 3911\ 4625\ 5002\ 7194\ 0313$
 $3 \times 9^{11} \times 155) 2\sqrt{3} (40\ 8246\ 3508\ 4739\ 5204\ 7532\ 9394\ 5595\ 2780$
 $3 \times 9^{11} \times 159) 2\sqrt{3} (4\ 4219\ 5558\ 2234\ 4903\ 3799\ 8641\ 6189\ 0412$
 $3 \times 9^{11} \times 163) 2\sqrt{3} (4732\ 7125\ 9420\ 9265\ 8060\ 1079\ 7664\ 7259$
 $3 \times 9^{11} \times 167) 2\sqrt{3} (519\ 7685\ 6477\ 4535\ 3468\ 9272\ 1237\ 0927$
 $3 \times 9^{11} \times 171) 2\sqrt{3} (56\ 4011\ 3730\ 8217\ 9356\ 2773\ 5185\ 9724$
 $3 \times 9^{11} \times 175) 2\sqrt{3} (6\ 1235\ 5205\ 0606\ 5187\ 2529\ 6962\ 7227$
 $3 \times 9^{14} \times 179) 2\sqrt{3} (6651\ 9032\ 2070\ 8508\ 8573\ 9893\ 5298$
 $3 \times 9^{11} \times 183) 2\sqrt{3} (722\ 9451\ 5877\ 7670\ 3615\ 5094\ 6824$
 $3 \times 9^{11} \times 187) 2\sqrt{3} (78\ 6690\ 1013\ 4470\ 3958\ 1926\ 4163$
 $3 \times 9^{11} \times 191) 2\sqrt{3} (8\ 5514\ 1646\ 0236\ 1628\ 9598\ 7542$
 $3 \times 9^{11} \times 195) 2\sqrt{3} (9306\ 6697\ 6584\ 1066\ 1717\ 0154$
 $3 \times 9^{11} \times 199) 2\sqrt{3} (1013\ 2890\ 0298\ 1020\ 6049\ 5913$
 $3 \times 9^{11} \times 203) 2\sqrt{3} (110\ 3691\ 9080\ 0888\ 3904\ 8980$
 $3 \times 9^{11} \times 207) 2\sqrt{3} (12\ 0262\ 7253\ 4923\ 0888\ 2846$
 $3 \times 9^{11} \times 211) 2\sqrt{3} (1\ 3109\ 2070\ 2860\ 0049\ 4339$
 $3 \times 9^{11} \times 215) 2\sqrt{3} (1429\ 4794\ 2275\ 6904\ 6153$
 $175\ 0296\ 7648\ 3643\ 1895$
 $175\ 0296\ 7648\ 3643\ 1895$

The Sum of $\left. \begin{array}{l} \text{Negat.} \\ \text{Affirm.} \end{array} \right\}$ part

$4046\ 4051\ 8592\ 3284\ 4370\ 6247\ 8274\ 1156\ 6280\ 4835\ 0483\ 7070\ 4457\ 1236\ 3286\ 4918\ 0162\ 2239$
 $3 \times 9^{10} \times 107) 2\sqrt{3} (16\ 7024\ 5634\ 0357\ 8290\ 0273\ 6176\ 6700\ 1580\ 7034\ 1502\ 1299$
 $3 \times 9^{17} \times 111) 2\sqrt{3} (1\ 7889\ 5178\ 0198\ 4861\ 8948\ 2253\ 1568\ 1239\ 1748\ 4024\ 7527$
 $3 \times 9^{18} \times 115) 2\sqrt{3} (1918\ 5859\ 6716\ 9390\ 9858\ 2154\ 6863\ 8706\ 8529\ 5388\ 1619$
 $3 \times 9^{10} \times 119) 2\sqrt{3} (206\ 0106\ 3139\ 5406\ 1282\ 6281\ 7823\ 8516\ 6088\ 6059\ 4198$
 $3 \times 9^{10} \times 123) 2\sqrt{3} (22\ 1476\ 7762\ 9677\ 8042\ 1733\ 4165\ 3462\ 9416\ 9323\ 4607$
 $3 \times 9^{11} \times 127) 2\sqrt{3} (2\ 3831\ 3066\ 3561\ 1285\ 3730\ 6826\ 1921\ 2089\ 4861\ 5798$
 $3 \times 9^{11} \times 131) 2\sqrt{3} (2507\ 0703\ 5006\ 1605\ 8035\ 4509\ 6916\ 0250\ 5214\ 0972$
 $3 \times 9^{11} \times 135) 2\sqrt{3} (276\ 7787\ 7848\ 4008\ 5269\ 6659\ 0696\ 2957\ 0521\ 0261$
 $3 \times 9^{14} \times 139) 2\sqrt{3} (29\ 8682\ 1350\ 5468\ 5460\ 7553\ 1370\ 1038\ 5308\ 0244$
 $3 \times 9^{11} \times 143) 2\sqrt{3} (3\ 2258\ 5988\ 9091\ 0084\ 7280\ 4087\ 3694\ 1381\ 5039$
 $3 \times 9^{10} \times 147) 2\sqrt{3} (3486\ 7570\ 9856\ 3977\ 4120\ 2558\ 1963\ 9166\ 6932$
 $3 \times 9^{17} \times 151) 2\sqrt{3} (377\ 1547\ 4134\ 5772\ 3911\ 4625\ 5002\ 7194\ 0313$
 $3 \times 9^{11} \times 155) 2\sqrt{3} (40\ 8246\ 3508\ 4739\ 5204\ 7532\ 9394\ 5595\ 2780$
 $3 \times 9^{11} \times 159) 2\sqrt{3} (4\ 4219\ 5558\ 2234\ 4903\ 3799\ 8641\ 6189\ 0412$
 $3 \times 9^{11} \times 163) 2\sqrt{3} (4732\ 7125\ 9420\ 9265\ 8060\ 1079\ 7664\ 7259$
 $3 \times 9^{11} \times 167) 2\sqrt{3} (519\ 7685\ 6477\ 4535\ 3468\ 9272\ 1237\ 0927$
 $3 \times 9^{11} \times 171) 2\sqrt{3} (56\ 4011\ 3730\ 8217\ 9356\ 2773\ 5185\ 9724$
 $3 \times 9^{11} \times 175) 2\sqrt{3} (6\ 1235\ 5205\ 0606\ 5187\ 2529\ 6962\ 7227$
 $3 \times 9^{14} \times 179) 2\sqrt{3} (6651\ 9032\ 2070\ 8508\ 8573\ 9893\ 5298$
 $3 \times 9^{11} \times 183) 2\sqrt{3} (722\ 9451\ 5877\ 7670\ 3615\ 5094\ 6824$
 $3 \times 9^{11} \times 187) 2\sqrt{3} (78\ 6690\ 1013\ 4470\ 3958\ 1926\ 4163$
 $3 \times 9^{11} \times 191) 2\sqrt{3} (8\ 5514\ 1646\ 0236\ 1628\ 9598\ 7542$
 $3 \times 9^{11} \times 195) 2\sqrt{3} (9306\ 6697\ 6584\ 1066\ 1717\ 0154$
 $3 \times 9^{11} \times 199) 2\sqrt{3} (1013\ 2890\ 0298\ 1020\ 6049\ 5913$
 $3 \times 9^{11} \times 203) 2\sqrt{3} (110\ 3691\ 9080\ 0888\ 3904\ 8980$
 $3 \times 9^{11} \times 207) 2\sqrt{3} (12\ 0262\ 7253\ 4923\ 0888\ 2846$
 $3 \times 9^{11} \times 211) 2\sqrt{3} (1\ 3109\ 2070\ 2860\ 0049\ 4339$
 $3 \times 9^{11} \times 215) 2\sqrt{3} (1429\ 4794\ 2275\ 6904\ 6153$
 $175\ 0296\ 7648\ 3643\ 1895$
 $175\ 0296\ 7648\ 3643\ 1895$

The Sum of $\left. \begin{array}{l} \text{Negat.} \\ \text{Affirm.} \end{array} \right\}$ part

$4046\ 4051\ 8592\ 3284\ 4370\ 6247\ 8274\ 1156\ 6280\ 4835\ 0483\ 7070\ 4457\ 1236\ 3286\ 4918\ 0162\ 2239$
 $3 \times 9^{10} \times 107) 2\sqrt{3} (16\ 7024\ 5634\ 0357\ 8290\ 0273\ 6176\ 6700\ 1580\ 7034\ 1502\ 1299$
 $3 \times 9^{17} \times 111) 2\sqrt{3} (1\ 7889\ 5178\ 0198\ 4861\ 8948\ 2253\ 1568\ 1239\ 1748\ 4024\ 7527$
 $3 \times 9^{18} \times 115) 2\sqrt{3} (1918\ 5859\ 6716\ 9390\ 9858\ 2154\ 6863\ 8706\ 8529\ 5388\ 1619$
 $3 \times 9^{10} \times 119) 2\sqrt{3} (206\ 0106\ 3139\ 5406\ 1282\ 6281\ 7823\ 8516\ 6088\ 6059\ 4198$
 $3 \times 9^{10} \times 123) 2\sqrt{3} (22\ 1476\ 7762\ 9677\ 8042\ 1733\ 4165\ 3462\ 9416\ 9323\ 4607$
 $3 \times 9^{11} \times 127) 2\sqrt{3} (2\ 3831\ 3066\ 3561\ 1285\ 3730\ 6826\ 1921\ 2089\ 4861\ 5798$
 $3 \times 9^{11} \times 131) 2\sqrt{3} (2507\ 0703\ 5006\ 1605\ 8035\ 4509\ 6916\ 0250\ 5214\ 0972$
 $3 \times 9^{11} \times 135) 2\sqrt{3} (276\ 7787\ 7848\ 4008\ 5269\ 6659\ 0696\ 2957\ 0521\ 0261$
 $3 \times 9^{14} \times 139) 2\sqrt{3} (29\ 8682\ 1350\ 5468\ 5460\ 7553\ 1370\ 1038\ 5308\ 0244$
 $3 \times 9^{11} \times 143) 2\sqrt{3} (3\ 2258\ 5988\ 9091\ 0084\ 7280\ 4087\ 3694\ 1381\ 5039$
 $3 \times 9^{10} \times 147) 2\sqrt{3} (3486\ 7570\ 9856\ 3977\ 4120\ 2558\ 1963\ 9166\ 6932$
 $3 \times 9^{17} \times 151) 2\sqrt{3} (377\ 1547\ 4134\ 5772\ 3911\ 4625\ 5002\ 7194\ 0313$
 $3 \times 9^{11} \times 155) 2\sqrt{3} (40\ 8246\ 3508\ 4739\ 5204\ 7532\ 9394\ 5595\ 2780$
 $3 \times 9^{11} \times 159) 2\sqrt{3} (4\ 4219\ 5558\ 2234\ 4903\ 3799\ 8641\ 6189\ 0412$
 $3 \times 9^{11} \times 163) 2\sqrt{3} (4732\ 7125\ 9420\ 9265\ 8060\ 1079\ 7664\ 7259$
 $3 \times 9^{11} \times 167) 2\sqrt{3} (519\ 7685\ 6477\ 4535\ 3468\ 9272\ 1237\ 0927$
 $3 \times 9^{11} \times 171) 2\sqrt{3} (56\ 4011\ 3730\ 8217\ 9356\ 2773\ 5185\ 9724$
 $3 \times 9^{11} \times 175) 2\sqrt{3} (6\ 1235\ 5205\ 0606\ 5187\ 2529\ 6962\ 7227$
 $3 \times 9^{14} \times 179) 2\sqrt{3} (6651\ 9032\ 2070\ 8508\ 8573\ 9893\ 5298$
 $3 \times 9^{11} \times 183) 2\sqrt{3} (722\ 9451\ 5877\ 7670\ 3615\ 5094\ 6824$
 $3 \times 9^{11} \times 187) 2\sqrt{3} (78\ 6690\ 1013\ 4470\ 3958\ 1926\ 4163$
 $3 \times 9^{11} \times 191) 2\sqrt{3} (8\ 5514\ 1646\ 0236\ 1628\ 9598\ 7542$
 $3 \times 9^{11} \times 195) 2\sqrt{3} (9306\ 6697\ 6584\ 1066\ 1717\ 0154$
 $3 \times 9^{11} \times 199) 2\sqrt{3} (1013\ 2890\ 0298\ 1020\ 6049\ 5913$
 $3 \times 9^{11} \times 203) 2\sqrt{3} (110\ 3691\ 9080\ 0888\ 3904\ 8980$
 $3 \times 9^{11} \times 207) 2\sqrt{3} (12\ 0262\ 7253\ 4923\ 0888\ 2846$
 $3 \times 9^{11} \times 211) 2\sqrt{3} (1\ 3109\ 2070\ 2860\ 0049\ 4339$
 $3 \times 9^{11} \times 215) 2\sqrt{3} (1429\ 4794\ 2275\ 6904\ 6153$
 $175\ 0296\ 7648\ 3643\ 1895$
 $175\ 0296\ 7648\ 3643\ 1895$

The Sum of $\left. \begin{array}{l} \text{Negat.} \\ \text{Affirm.} \end{array} \right\}$ part

$4046\ 4051\ 8592\ 3284\ 4370\ 6247\ 8274\ 1156\ 6280\ 4835\ 0483\ 7070\ 4457\ 1236\ 3286\ 4918\ 0162\ 2239$
 $3 \times 9^{10} \times 107) 2\sqrt{3} (16\ 7024\ 5634\ 0357\ 8290\ 0273\ 6176\ 6700\ 1580\ 7034\ 1502\ 1299$
 $3 \times 9^{17} \times 111) 2\sqrt{3} (1\ 7889\ 5178\ 0198\ 4861\ 8948\ 2253\ 1568\ 1239\ 1748\ 4024\ 7527$
 $3 \times 9^{18} \times 115) 2\sqrt{3} (1918\ 5859\ 6716\ 9390\ 9858\ 2154\ 6863\ 8706\ 8529\ 5388\ 1619$
 $3 \times 9^{10} \times 119) 2\sqrt{3} (206\ 0106\ 3139\ 5406\ 1282\ 6281\ 7823\ 8516\ 6088\ 6059\ 4198$
 $3 \times 9^{10} \times 123) 2\sqrt{3} (22\ 1476\ 7762\ 9677\ 8042\ 1733\ 4165\ 3462\ 9416\ 9323\ 4607$
 $3 \times 9^{11} \times 127) 2\sqrt{3} (2\ 3831\ 3066\ 3561\ 1285\ 3730\ 6826\ 1921\ 2089\ 4861\ 5798$
 $3 \times 9^{11} \times 131) 2\sqrt{3} (2507\ 0703\ 5006\ 1605\ 8035\ 4509\ 6916\ 0250\ 5214\ 0972$
 $3 \times 9^{11} \times 135) 2\sqrt{3} (276\ 7787\ 7848\ 4008\ 5269\ 6659\ 0696\ 2957\ 0521\ 0261$
 $3 \times 9^{14} \times 139) 2\sqrt{3} (29\ 8682\ 1350\ 5468\ 5460\ 7553\ 1370\ 1038\ 5308\ 0244$
 $3 \times 9^{11} \times 143) 2\sqrt{3} (3\ 2258\ 5988\ 9091\ 0084\ 7280\ 4087\ 3694\ 1381\ 5039$
 $3 \times 9^{10} \times 147) 2\sqrt{3} (3486\ 7570\ 9856\ 3977\ 4120\ 2558\ 1963\ 9166\ 6932$
 $3 \times 9^{17} \times 151) 2\sqrt{3} (377\ 1547\ 4134\ 5772\ 3911\ 4625\ 5002\ 7194\ 0313$
 $3 \times 9^{11} \times 155) 2\sqrt{3} (40\ 8246\ 3508\ 4739\ 5204\ 7532\ 9394\ 5595\ 2780$
 $3 \times 9^{11} \times 159) 2\sqrt{3} (4\ 4219\ 5558\ 2234\ 4903\ 3799\ 8641\ 6189\ 0412$
 $3 \times 9^{11} \times 163) 2\sqrt{3} (4732\ 7125\ 9420\ 9265\ 8060\ 1079\ 7664\ 7259$
 $3 \times 9^{11} \times 167) 2\sqrt{3} (519\ 7685\ 6477\ 4535\ 3468\ 9272\ 1237\ 0927$
 $3 \times 9^{11} \times 171) 2\sqrt{3} (56\ 4011\ 3730\ 8217\ 9356\ 2773\ 5185\ 9724$
 $3 \times 9^{11} \times 175) 2\sqrt{3} (6\ 1235\ 5205\ 0606\ 5187\ 2529\ 6962\ 7227$
 $3 \times 9^{14} \times 179) 2\sqrt{3} (6651\ 9032\ 2070\ 8508\ 8573\ 9893\ 5298$
 $3 \times 9^{11} \times 183) 2\sqrt{3} (722\ 9451\ 5877\ 7670\ 3615\ 5094\ 6824$
 $3 \times 9^{11} \times 187) 2\sqrt{3} (78\ 6690\ 1013\ 4470\ 3958\ 1926\ 4163$
 $3 \times 9^{11} \times 191) 2\sqrt{3} (8\ 5514\ 1646\ 0236\ 1628\ 9598\ 7542$
 $3 \times 9^{11} \times 195) 2\sqrt{3} (9306\ 6697\ 6584\ 1066\ 1717\ 0154$
 $3 \times 9^{11} \times 199) 2\sqrt{3} (1013\ 2890\ 0298\ 1020\ 6049\ 5913$
 $3 \times 9^{11} \times 203) 2\sqrt{3} (110\ 3691\ 9080\ 0888\ 3904\ 8980$
 $3 \times 9^{11} \times 207) 2\sqrt{3} (12\ 0262\ 7253\ 4923\ 0888\ 2846$
 $3 \times 9^{11} \times 211) 2\sqrt{3} (1\ 3109\ 2070\ 2860\ 0049\ 4339$
 $3 \times 9^{11} \times 215) 2\sqrt{3} (1429\ 4794\ 2275\ 6904\ 6153$
 $175\ 0296\ 7648\ 3643\ 1895$
 $175\ 0296\ 7648\ 3643\ 1895$

The Sum of $\left. \begin{array}{l} \text{Negat.} \\ \text{Affirm.} \end{array} \right\}$ part

$4046\ 4051\ 8592\ 3284\ 4370\ 6247\ 8274\ 1156\ 6280\ 4835\ 0483\ 7070\ 4457\ 1236\ 3286\ 4918\ 0162\ 2239$
 $3 \times 9^{10} \times 107) 2\sqrt{3} (16\ 7024\ 5634\ 0357\ 8290\ 0273\ 6176\ 6700\ 1580\ 7034\ 1502\ 1299$
 $3 \times 9^{17} \times 111) 2\sqrt{3} (1\ 7889\ 5178\ 0198\ 4861\ 8948\ 2253\ 1568\ 1239\ 1748\ 4024\ 7527$
 $3 \times 9^{18} \times 115) 2\sqrt{3} (1918\ 5859\ 6716\ 9390\ 9858\ 2154\ 6863\ 8706\ 8529\ 5388\ 1619$
 $3 \times 9^{10} \times 119) 2\sqrt{3} (206\ 0106\ 3139\ 5406\ 1282\ 6281\ 7823\ 8516\ 6088\ 6059\ 4198$
 $3 \times 9^{10} \times 123) 2\sqrt{3} (22\ 1476\ 7762\ 9677\ 8042\ 1733\ 4165\ 3462\ 9416\ 9323\ 4607$
 $3 \times 9^{11} \times 127) 2\sqrt{3} (2\ 3831\ 3066\ 3561\ 1285\ 3730\ 6826\ 1921\ 2089\ 4861\ 5798$
 $3 \times 9^{11} \times 131) 2\sqrt{3} (2507\ 0703\ 5006\ 1605\ 8035\ 4509\ 6916\ 0250\ 5214\ 0972$
 $3 \times 9^{11} \times 135) 2\sqrt{3} (276\ 7787\ 784$

The QUADRATURE of the CIRCLE, from the Tangent of 18 Degrees.

The Old Powers.

The Affirmative Powers divided by 1, 5, 9, 13, 17, 21, &c.

$Tan: 18 \text{ degs } \sqrt{1-2\sqrt{\frac{1}{5}}}$
 A better Expedi-
 ent for finding the
 length of the Circu-
 lar Arch is offered
 by the Tangent of 18
 deg. then upon the
 first view it may ap-
 pear, allowing for
 the Labour of Ex-
 tracting two square
 Roots (because the
 Tang. of 18 deg. =

$a \text{ is } = \sqrt{1-2\sqrt{\frac{1}{5}}}$) and
 a Multiplication, or
 another Extraction,
 (one of which is un-
 avoidable) for ob-
 taining the Cube =
 aa^3 , since it resolves
 it self into this Ab-
 equation $2aa^2 - a^4 = \frac{1}{5}$.
 Yet this Extrare be-
 ing made, the Pow-
 ers are rallied with
 greater ease than in
 any other Method
 except Mr. Halley's
 for $a^5 = 4a - \frac{1}{5a}$ (the

a^1	3249196962329065261558714122151344649549034731
a^2	57242861629885355728390272005494074451904652
a^3	9) 44847871041543405408481245871061572480294
a^4	13) 346045016071922473595228642932529277
a^5	17) 294946830049037983495643018232528074
a^6	21) 2661199999103160299117846592913091
a^7	25) 249150036341235919842187141700967
a^8	29) 239390614636849217954932484138
a^9	33) 23447434534383748568773880094
a^{10}	37) 233083591819956802514608473
a^{11}	41) 234441085443165850349437
a^{12}	45) 23807249346148339332364
a^{13}	49) 243685567512481740202
a^{14}	53) 2511043134618267422
a^{15}	57) 26023118608793215
a^{16}	61) 271024477600667
a^{17}	65) 2834843893199
a^{18}	69) 29764429809
a^{19}	73) 31355269
a^{20}	77) 3313327
a^{21}	81) 35105
a^{22}	85) 373
a^{23}	89) 4

The Sum

$\{ 1-3.2564850208619381077215721040603026929061274$
 $- .114892367272144869258928720780527328731894875$
 $= 3.141592653589793238462643383279502884197169392$
 The Arch of 18 deg. = $\frac{1}{2}$, of the Semi-periphery = $\frac{1}{2}$
 The Square Root of $\frac{1}{5} = \sqrt{\frac{1}{5}} = 2.236067977499789$
 Hence $a = 1 - 2\sqrt{\frac{1}{5}} = 1 - 2.236067977499789 = 0.105712080900084$
 $a^5 = 4a - \frac{1}{5a} = 9.47213519549592818347374625524708812336714750915$

(60)

" The **QUADRATURE** of the **CIRCLE** from the **Tangent** of **18 Degrees**.

The Odd Powers.

The Negative Powers divided by 3, 7, 11, 13, 19, &c.

reciprocal $\frac{1}{a}$ is
the *Tangent* of
72 deg. $\approx \sqrt{5}$
 $\sqrt{2\sqrt{5}} = 3.07$
768.35371. —
75523.42257.
02905.76036-
90982.40657-
02143 ;) the
5th Power $a^5 =$
 $2a^4 - \frac{1}{2}a$, or
which is re-
dier for $Ua^{\frac{1}{2}}$
 $a^5 = a^4 - \frac{1}{2}a$,
the 7th Power
 $a^7 = 2a^5 - \frac{1}{2}a^3$,
rather $\frac{1}{2}a^2 - a^5$
 $-\frac{1}{2}a^3$, & $\frac{1}{2}a^5$
 $a^7 = \frac{1}{2}a^2 - a^5$, &c.
so that the dif-
ference of any
Power, and the
next part of
the next less
is $\frac{1}{2}$ half, the

The sum—0.114892367272144869258928720780527382731894875

next greater; divide every Power by its proper Index, and subtract the Sum of every second, viz. the 3d, 7th, 11th, 15th, 19th, 23d &c. from the Sum of the 1st, 5th, 9, 13, 17th. &c. the Remainder is one tenth part of the Semiperiphery.

Let the Tangent of $22\frac{1}{2}$ Degrees = $\sqrt{2} - 1$ be $a = 0.414213$
 $35623,73095,04880,16887$ + the Square hereof a^2 is $= 1 - 2a$,
the Cube $a^3 = a - 2aa$, i. e. $= 5a - 2$, the 5th Power $a^5 = 5a^3$
 $- 2aa^2$, i. e. $= 5a^3 + 4a - 2$, i. e. $= 6a^3 - a$, therefore the 7th
Power $a^7 = 6a^5 - a^3$, and the 9th Power $a^9 = 6a^7 - a^5$, &c. so
that all the Odd Powers may be raised by multiplying the next
less by 6, and subtracting the preceding, thus the following were
made, then divide each Power by its proper Index, and subtract
every second, *Viz.* the 3d, 7th, 11th, 15th, 19th, &c. the remain-
der is the length of the Arch of $22\frac{1}{2}$ Degrees, *Viz.* $\frac{1}{4}$ part of the
Semiperipherie.

The Odd Powers of the Tangent of
 $22\frac{1}{2}$ Degrees. =

$$\begin{aligned} &= \sqrt{2} - 1 = .4142135623730950488017 \\ &a^2 = 121933088197564152490 \\ &a^3 = 3589374986230696634 \\ &a^5 = 105661334279533064 \\ &a^7 = 3110379273427542 \\ &a^9 = 91561017003375 \\ &a^{11} = 2695304687217 \\ &a^{13} = 79342362008 \\ &a^{15} = 2335621075 \\ &a^{17} = 68754265 \\ &a^{19} = 2023937 \\ &a^{21} = 59579 \\ &a^{23} = 1754 \end{aligned}$$

The Affirmative Powers divided by
1, 5, 9, 13, 17, 21, &c.

$$\begin{aligned} 1) &= .4142135623730950488017 \\ 5) &= 24.3866.1763.9512.8304.98 \\ 9) &= 3988.1944.2914.5218.48 \\ 13) &= 81.2779.4944.5794.66 \\ 17) &= 1.8296.3486.6722.08 \\ 21) &= 436.0048.4287.32 \\ 25) &= 10.7812.1874.89 \\ 29) &= 2735.9435.18 \\ 33) &= 70.7763.96 \\ 37) &= 1.8582.23 \\ 41) &= 493.64 \\ 45) &= 13.24 \\ 49) &= 36 \end{aligned}$$

$$\begin{aligned} &+ .4166.9293.7604.2478.3371.19 \\ &- 239.9385.5905.5236.7890.41 \end{aligned}$$

The Arch of $22\frac{1}{2}$ Degrees .3926.9908.1698.7241.5480.78
Which drawn into 8 is the *Semiperipherie* = 3.1415.9265.3589.7932.3846.24

The Odd Powers of the Tangent of
 $22\frac{1}{2}$ Degrees. =

$$\begin{aligned} a^3 &= 710678118654752440084 \\ a^5 &= 20920410530632474854 \\ a^7 &= 615839386751704950 \\ a^9 &= 18128618925493434 \\ a^{11} &= 533656715071820 \\ a^{13} &= 15709386948432 \\ a^{15} &= 462441174871 \\ a^{17} &= 13612997179 \\ a^{19} &= 400729223 \\ a^{21} &= 11796367 \\ a^{23} &= 347253 \\ a^{25} &= 10222 \\ a^{27} &= 301 \end{aligned}$$

The Negative Powers divided by
3, 7, 11, 15, 19, 23, &c.

$$\begin{aligned} 3) &= .0236.8927.0621.8250.8133.61 \\ 7) &= 2.9886.3007.5804.6392.65 \\ 11) &= 559.8539.8795.6095.41 \\ 15) &= 12.0857.4595.0328.96 \\ 19) &= 2808.7195.5300.95 \\ 23) &= 68.3016.8238.45 \\ 27) &= 1.7127.4509.21 \\ 31) &= 439.1289.41 \\ 35) &= 11.4494.06 \\ 39) &= 3024.71 \\ 43) &= 80.75 \\ 47) &= 2.57 \\ 51) &= 6 \end{aligned}$$

$$- .0239.9385.5905.5236.7890.41$$

Though these Powers are not so easily raised, as those of $\sqrt{12}$ yet not many
above half the Number are required. Let

Let the Tangent of 15 deg. be $a = 2 - \sqrt{3} = 0,2679491924$
 $3112270647255 +$ its Square aa is $= 4a - 1$, the Cube $aaa =$
 $4aa - a$, i. e. $= 15a - 4$; The 5th Power $a^5 = 15a^3 - 4aa$,
i. e. $= 15a^3 - 16a + 4$, i. e. $= 14a^3 - a$: The 7th Power $a^7 =$
 $14a^5 - a^3$, the 9th Power $a^9 = 14a^7 - a^5$, &c. so that none but
the Odd Powers need be made, any of which are rais'd by multiply-
ing the next less by 14, and deducting the preceding, &c. *ut supra*.

The Odd Powers.

$a \cdot 2 - \sqrt{3} = 0,267949192431122706472553658$
 a^1 1381218104645652763714625
 a^3 7119870133929688083644
 a^5 36701336706724512389
 a^7 189187174867319875
 a^9 975217535543331
 a^{11} 5027028086313
 a^{13} 25913204444
 a^{15} 133576768
 a^{17} 688558
 a^{19} 3549

The Affirmative Powers divided by 1,5,9,13,17,21,25, &c.

2679.4919.2431.1227.0647.2553.658
5) 2.7624.3620.9291.3055.2742.924
9) 79.1096.6815.4774.2120.405
13) 2823.1797.4667.1116.338
17) 11.1286.5734.5136.463
21) 464.3893.0263.968
25) 2.0108.1123.452
29) 89.3558.774
33) 4047.781
37) 18.610
41) 86

+ 2682.2622.9983.0884.2969.3582.460
- 64.2684.2183.9389.9315.5128.844

The Arch of 15 Degrees

2617.9938.7799.1494.3653.8553.516
3.1415.9265.3589.7932.3846.2643.392

Which drawn into 12 is the *Semiperiphere*:

The Odd Powers.

a^1 19237886466840597088304877
 a^3 99166998198541603699875
 a^5 511183676474029471145
 a^7 2635037420113702305
 a^9 13583028028775943
 a^{11} 70017468830689
 a^{13} 360924377845
 a^{15} 1860484372
 a^{17} 9590380
 a^{19} 49436
 a^{21} 255

The Negative Powers divided by 3, 7, 11, 15, 19, 23, &c.

3) 0064.1262.8822.2801.9902.9434.959
7) 1416.6714.0283.6308.6242.839
11) 4.6471.2433.1582.0861.013
15) 175.6691.6134.0913.487
19) 7148.9621.2040.839
23) 30.4423.7775.247
27) 1336.7569.550
31) 6.0015.625
35) 274.011
39) 1.268
43) 6

- .0064.2684.2183.9389.9315.5128.844

The raising these Powers is still somewhat more troublesome, yet not above one third part are requir'd.

Tho' no other Method of obtaining the Quadrature of the Circle can be expected equalling that of Mr. *Halley's* by $\sqrt{12}$ in Facility and Exactness, yet the Three preceeding deduced from the same Principles may perhaps exceed any other yet discover'd, and serve for a Confirmation as far they extend.

The

Another easy Method to find the Quadrature of the Circle, from $\sqrt{12} = 2\sqrt{3} = 3.46410161, 5137.7545, 8705.4892, 6830.1174, 4733.8856, 1050.7620, 7612.5611, 1613.9589, 0386.6033, 8176.0007, 4162.2923, 7351.4497, 1513. +$

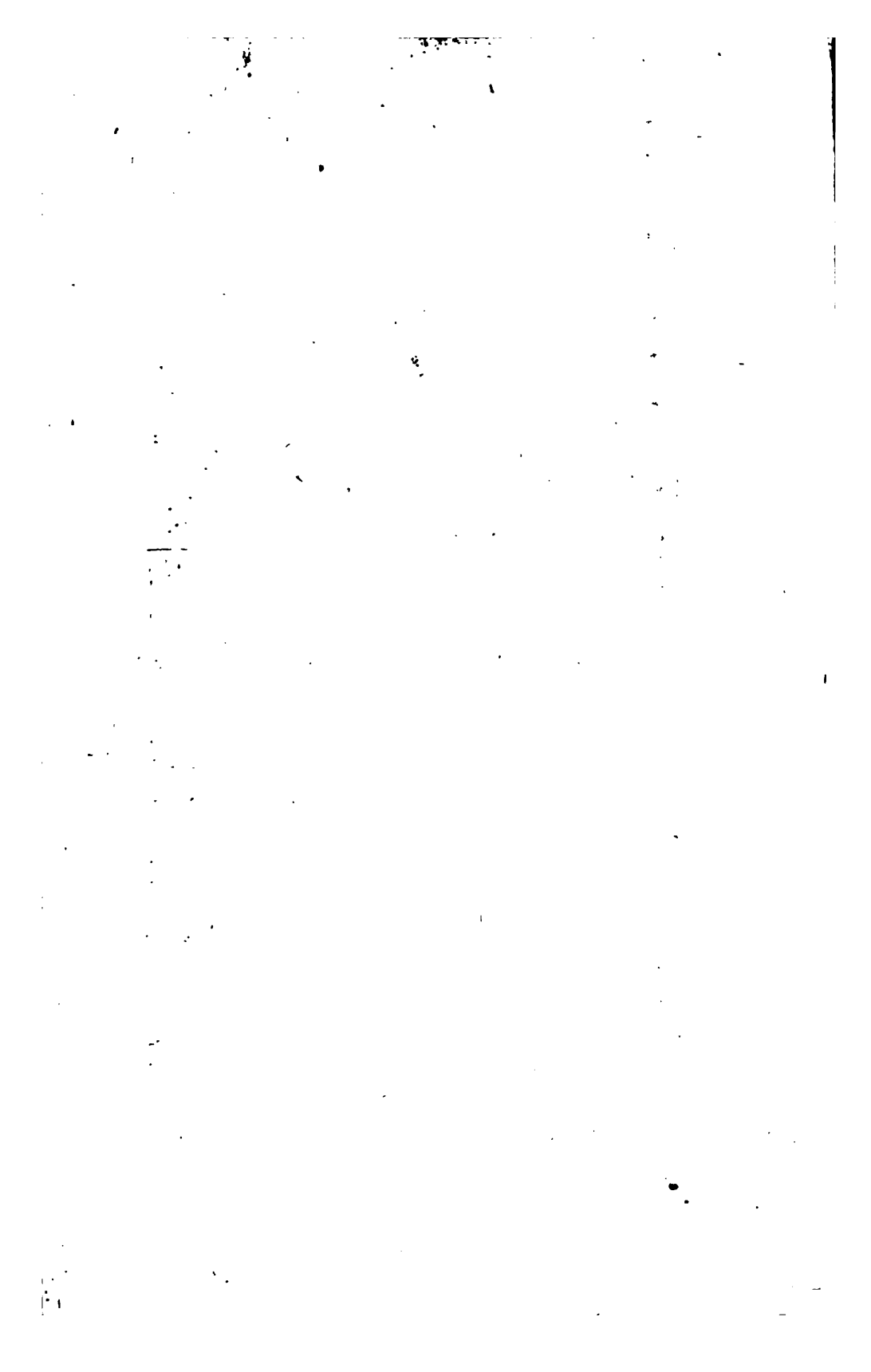
I. Divide $\sqrt{12}$ continually by 9 which will give all the Powers necessary for this Purpose.

II. Multiply those Powers respectively by this Series of Arithmetical Proportionals $\frac{1}{2}, \frac{1}{4}, 8, \frac{1}{8}, \frac{1}{16}, \frac{1}{32}, \&c.$ whose common difference is $\frac{1}{2}$, or if $\sqrt{12} \times \frac{1}{2} = 9.237604$, &c. be had, that whole Series may be obtain'd by a successive Division by $\frac{2}{1}, \frac{2}{2}, \frac{2}{4}, \frac{2}{8}, \frac{2}{16}, \frac{2}{32}, \&c.$ as is express'd in () before each.

III. Divide each of those Products respectively by this Series 3, 35 = 5 x 7, 99 = 9 x 11, 195 = 13 x 15, 323 = 17 x 19, &c. whose second Difference is 32 (as is better explained by inspecting the following Ranks of Numbers then in Words) the Sum of all these Quotients is the Semiperiphertie of the Circle.

$\sqrt{12} = 2\sqrt{3} = 3.4641, 0161, 5137, 7546 \times \frac{1}{2} = (\frac{1}{2}) 9, 2376, 0430, 7034, 0122$ Diff. $1\frac{1}{2} = 3$ $3.0792, 0143, 5678, 0041$
 $9) 2\sqrt{3} (3849, 0017, 9459, 7505 \times \frac{1}{2} = (\frac{1}{2}) 2, 0528, 0095, 7118, 6694 (32) 5\frac{1}{2} = 35$ $586, 5145, 5917, 6762$
 $81 = 9^2) 2\sqrt{3} (427, 6668, 6606, 6380 \times 8 = (\frac{2}{2}) 3421, 3349, 2853, 1116 (64) 9\frac{1}{2} = 99$ $34, 5589, 3867, 2031$
 $729 = 9^3) 2\sqrt{3} (47, 5185, 4067, 4043 \times \frac{1}{2} = (\frac{1}{2}) 506, 8644, 3385, 6462 (96) 13\frac{1}{2} = 195$ $2, 5993, 0478, 9007$
 $6, 561 = 9^4) 2\sqrt{3} (5, 2798, 3785, 2671 \times \frac{1}{2} = (\frac{1}{2}) 70, 3978, 3803, 5620 (128) 17\frac{1}{2} = 323$ $2179, 4996, 2959$
 $59, 049 = 9^5) 2\sqrt{3} (5866, 4865, 0297 \times 16 = (\frac{1}{2}) 9, 3863, 7840, 4749 (160) 21\frac{1}{2} = 483$ $194, 3349, 5662$
 $531, 441 = 9^6) 2\sqrt{3} (651, 8318, 3366 \times \frac{1}{2} = (\frac{1}{2}) 1, 2167, 5275, 6171 (192) 25\frac{1}{2} = 675$ $18, 0259, 6676$
 $4, 782, 969 = 9^7) 2\sqrt{3} (72, 4257, 5930 \times \frac{1}{2} = (\frac{1}{2}) 1545, 0828, 6498 (224) 29\frac{1}{2} = 899$ $1, 7186, 6837$
 $43, 046, 721 = 9^8) 2\sqrt{3} (8, 0473, 0659 \times 24 = (\frac{1}{2}) 193, 1358, 5812 (256) 33\frac{1}{2} = 1155$ $1672, 1676$
 $387, 420, 489 = 9^9) 2\sqrt{3} (8941, 4518 \times \frac{1}{2} = (\frac{1}{2}) 23, 8438, 7137 (288) 37\frac{1}{2} = 1443$ $165, 2382$
 $34, 86, 784, 401 = 9^{10}) 2\sqrt{3} (993, 4946 \times \frac{1}{2} = (\frac{1}{2}) 2, 9142, 5095 (320) 41\frac{1}{2} = 1763$ $16, 5301$
 $31, 381, 059, 609 = 9^{11}) 2\sqrt{3} (110, 3883 \times 32 = (\frac{1}{2}) 3532, 4154 (352) 45\frac{1}{2} = 2115$ $1, 6702$
 $282, 429, 536, 481 = 9^{12}) 2\sqrt{3} (12, 2654 \times 16 = (\frac{1}{2}) 425, 1994 (384) 49\frac{1}{2} = 2499$ 1701
 $2, 541, 865, 828, 329 = 9^{13}) 2\sqrt{3} (1, 3628 \times \frac{1}{2} = (\frac{1}{2}) 50, 8786 (416) 53\frac{1}{2} = 2915$ 174
 $22, 876, 792, 454, 961 = 9^{14}) 2\sqrt{3} (151, 440 = (\frac{1}{2}) 6, 0570 (448) 57\frac{1}{2} = 3363$ 18
 $205, 891, 132, 094, 649 = 9^{15}) 2\sqrt{3} (168 \times \frac{1}{2} = (\frac{1}{2}) 7179 (480) 61\frac{1}{2} = 3843$ 2

The Sum = 3,1415,9265,3589,7932



ERRATA for the second Edition of Sherwin's Mathematical Tables.

Num	Logar.	Num	Diff. Log.	D M	Log. Sec.	D M	Nat. Sine
40	* 38830	1748	248	5 41	01	37 59	6154-
358	* 0633	Diff.	Pts. Pro.	26 51	10.049	70 2	4
10094	* 8888	373	6—224	33 24	10.07	79 59	9
11692	* 3438	388	6—233	53 45	10.08	83 58	the min.
15322	* 6864	350	9—315	62 60	10.34	84 13	100
23800	* 9937	349	9—314	D M	Diff. L. Sine	87 58	the min.
27164	* 8593	311	8—249	1 58		D M	Nat. Tan.
28370	* 7587	216	9—280	1 59	35	38	the deg.
28758	* 6007	207	4—88	9 27	597	46 54	the min.
29282	* 9768	203	8—165	11 14	65	48 51	I
30618	* 9693	D M	Log. Sine	63 11	639	49 60	6
30972	* 9850	5 54	9.011	D M	Diff. L. Tan.	51 43	I
31404	* 9135	28 32	1279	0 14	35	62 39	31
33336	* 9265	38 39	751	0 15		D M	Nat. Sec.
33337	* 5740	63 45	213	0 16	94	28 24	176
35857	* 5433	88 22	35	0 33	I	32 56	8
36103	* 2960	D M	Log. Tan.	0 34		33 31	I
36249	* 4381	41 57	9.9	24 44	324	48 11	I
36935	* 2685	52 0	10.	45		49 2	15
37091	* 8268	57 59	10.2			61 14	207
38889	* 4136					68 30	27
40403	* 2871					73	the deg.
41237	* 0738					84 14	the min.
41407	* 7919					15	ditto
42344	* 0438						
43057	* 9688						
43951	* 0476						
44468	* 1091						
45093	* 5397						
48033	* 0993						
48764	* 3516						
50507	* 6591						
54033	* 0388						
54959	* 5925						
56832	* 9860						
57941	* 9771						
59838	* 4888						
61163	* 4942						
61872	* 2796						
61984	* 1359						
62681	* 6160						
62759	* 0576						
63684	* 0037						
64864	* 5992						
64953	* 4666						
65537	* 8460						
69318	* 4782						
69579	* 2351						
70670	* 6695						
72222	* 2030						
72812	* 5444						
74224	* 4717						
74726	* 8551						
74792	* 6823						
75454	* 5245						
76300	* 6601						
79006	* 4210						
79327	* 1749						
79548	* 0871						
80514	* 2535						
81518	* 6540						
87027	* 6704						
87422	* 2030						
92088	* 3449						
94047	* 9477						
97463	* 974						
100253	* 120						
100279							

I have carefully examined the Logarithms answering to all the common Numbers from 1 to 101000, with the Differences, and the Proportional Parts; and also the whole Logarithmick Canon of *Sines*, *Tangents* and *Secants*, with their Differences; and have collected this *Errata*, wherein I believe I have not omitted the Correction of any Figure erring above Unity in the lowest Place; I have also examined the whole Canon of Natural *Sines*, *Tangents* and *Secants*, and do believe the same, when thus corrected, will have fewer erroneous Figures than even *Van Schooten's*, printed at *Amsterdam* 1627; altho' said to be without one Fault.

William Gardiner, Land-Surveyor.

Note, It may be observed that great Care has been taken in correcting the Press for this Edition, by the small Number of new Errors; for in the Logarithms of the common Numbers, those only are new, that have an Asterism before them, the rest are Errors in the first Edition; and there are several other Errors in that Edition, besides those mentioned in it's *Errata*, that were corrected in the printing of this; so that there are considerably fewer Errors printed in this than in the former Edition.

NOBLEMENS and GENTLEMENS ESTATES Surveyed and Plotted

AFTER a NEW METHOD of his own Invention, which far excels in Exactness all other hitherto used, and Books of Particulars drawn therefrom. By WILLIAM GARDINER, Land-Surveyor

Who may be heard of at Richard's Coffee-house with in Temple-bar, at Mr John Gardiner's a Peruke-maker, just without Temple-bar; at Mr Upton's in Sherrard-street, near Golden-square, or at Mr Fowke's an Engine-maker, in King-street Westminster; at all which Places may be seen a Specimen of his fair MAPS.

N B. He takes Levels and calculates Reversions, &c.

The Publishers will give a Book in Sheets to any Person that shall find Two material Faults in the said Tables.

Mathematical TABLES,

Contrived after a most *Comprehensive Method* :

V I Z.

A TABLE of *Logarithms*, from 1 to 101000.
To which is added (upon the same Page) The
Differences and *Proportional Parts*, whereby the
Logarithm of any Number under 10,000,000 may
easily be found.

TABLES of *Natural Sines*, *Tangents*, and
Secants, with their *Logarithms*, and *Logarithmetick*
Differences to every Minute of the Quadrant.

TABLES of *Natural Versed Sines*, and their
Logarithms, to every Minute of the Quadrant.

A N D

A TABLE of Difference of *Latitude* and
Departure to every Degree and Quarter-Point of
the *Compass*: The Radius 10000.

L O N D O N :

Printed by S. Bridge, for Jer. Seller and Cha. Price,
at *Hermitage-Stairs* in *Wapping*; and John Senex,
next Door to the *Fleece-Tavern* in *Cornhill*. 1705.

N.	Logar.	N.	Logar.	Num|Log.	Num|Log.	Num|Log.	Num|Log.
				Index 2	Ind. 2.	Ind. 2.	Ind. 2.
0		50	1.6989700	100	0000000	150	1760913
1	0.0000000	51	1.7075702	101	43214	151	89769
2	0.3010300	52	1.7160033	102	86002	152	1818436
3	0.4771213	53	1.7242759	103	0128372	153	46914
4	0.6020600	54	1.7323938	104	70333	154	75207
5	0.6989700	55	1.7403627	105	0211893	155	1903317
6	0.7781513	56	1.7481880	106	53059	156	31246
7	0.8450980	57	1.7558749	107	93838	157	58997
8	0.9030900	58	1.7634280	108	0334238	158	86571
9	0.9542425	59	1.7708520	109	74265	159	2013971
10	1.0000000	60	1.7781513	110	0413927	160	41200
11	1.0413927	61	1.7853298	111	53230	161	68259
12	1.0791812	62	1.7923917	112	92180	162	95150
13	1.1139434	63	1.7993405	113	0530784	163	2121876
14	1.1461280	64	1.8061800	114	69049	164	48438
15	1.1760913	65	1.8129134	115	0606978	165	74839
16	1.2041200	66	1.8195439	116	44580	166	2201081
17	1.2304489	67	1.8260748	117	81859	167	27165
18	1.2552725	68	1.8325089	118	0718820	168	53093
19	1.2787536	69	1.8388491	119	55470	169	78867
20	1.3010300	70	1.8450980	120	91812	170	2304489
21	1.3222193	71	1.8512583	121	0827854	171	29961
22	1.3424227	72	1.8573325	122	63598	172	55284
23	1.3617278	73	1.8633229	123	99051	173	80461
24	1.3808112	74	1.8692317	124	0934217	174	2405492
25	1.3979400	75	1.8750613	125	69100	175	30380
26	1.4149733	76	1.8808136	126	1003705	176	55127
27	1.4313638	77	1.8864907	127	38037	177	79733
28	1.4471580	78	1.8920946	128	72100	178	2504200
29	1.4623980	79	1.8976271	129	1105897	179	28530
30	1.4771213	80	1.9030900	130	39434	180	52725
31	1.4913617	81	1.9084850	131	72713	181	76786
32	1.5051500	82	1.9138139	132	1205739	182	2600714
33	1.5185139	83	1.9190781	133	38516	183	24511
34	1.5314789	84	1.9242793	134	71048	184	48178
35	1.5440680	85	1.9294189	135	1303338	185	71717
36	1.5563025	86	1.9344985	136	35389	186	95129
37	1.5682017	87	1.9395193	137	67806	187	2718416
38	1.5797836	88	1.9444827	138	98791	188	41578
39	1.5910646	89	1.9493900	139	1430148	189	64618
40	1.6020600	90	1.9542425	140	61280	190	87536
41	1.6127839	91	1.9590414	141	92191	191	2810334
42	1.6232493	92	1.9637878	142	1522883	192	33012
43	1.6334685	93	1.9684829	143	53360	193	55003
44	1.6434527	94	1.6731279	144	83625	194	78017
45	1.6532125	95	1.9777236	145	1613680	195	2900346
46	1.6627578	96	1.9822712	146	43529	196	22561
47	1.6720979	97	1.9867717	147	73173	197	44662
48	1.6812412	98	1.9912261	148	1702617	198	66652
49	1.6901961	99	1.9956352	149	31863	199	88531
						200	3010300
						201	31968
						202	53516
						203	74860
						204	96302
						205	3117539
						206	38672
						207	59723
						208	80633
						209	3201462
						210	22192
						211	42825
						212	63359
						213	83796
						214	3304138
						215	24389
						216	44538
						217	64597
						218	84565
						219	3404441
						220	24227
						221	43923
						222	63530
						223	83049
						224	3502480
						225	21825
						226	41084
						227	60259
						228	79348
						229	98355
						230	3617278
						231	36120
						232	54880
						233	73559
						234	92159
						235	3710679
						236	29120
						237	47483
						238	65770
						239	83975
						240	3802112
						241	20170
						242	38154
						243	56065
						244	73898
						245	91661
						246	3909351
						247	26970
						248	44517
						249	61993

to 101000.

N. 250. L. 39

Num	Log.	Num	Log.	Num	Log.	Num	Log.	Num	Log.
Ind. 2.		Ind. 2.		Ind. 2.		Ind. 2.		Ind. 2.	
250	3979400	300	4771213	350	5440680	400	6020600	450	6532125
251	96737	301	85665	351	53071	401	31444	451	41765
252	4014005	302	4800069	352	65427	402	42261	452	51384
253	31205	303	14426	353	77747	403	53050	453	60982
254	48337	304	28736	354	90033	404	63814	454	70559
255	65402	305	42998	355	5502284	405	74550	455	80114
256	82400	306	57214	356	14500	406	85260	456	87648
257	99331	307	71384	357	26682	407	95944	457	99162
258	4116197	308	85507	358	38830	408	6106502	458	6608655
259	32998	309	99585	359	50944	409	17233	459	18127
260	49733	310	4913617	360	63025	410	27839	460	27578
261	66405	311	27604	361	75072	411	38418	461	37009
262	83013	312	41546	362	87086	412	48972	462	46420
263	99157	313	55443	363	99066	413	59501	463	55810
264	4216039	314	69296	364	5611014	414	70003	464	65180
265	32459	315	83106	365	22929	415	80481	465	74530
266	48816	316	96871	366	34311	416	90933	466	83859
267	65113	317	5010593	367	46661	417	6201361	467	93169
268	81348	318	24271	368	58478	418	11763	468	6702459
269	97523	319	37907	369	70264	419	22140	469	11728
270	4313638	320	51500	370	82017	420	32493	470	20979
271	29693	321	65050	371	93739	421	42821	471	37200
272	45689	322	78559	372	5705429	422	53125	472	39420
273	61626	323	92025	373	17088	423	63404	473	48611
274	77506	324	5105450	374	28716	424	73659	474	57783
275	93327	325	18834	375	40313	425	83889	475	66936
276	4400031	326	32176	376	51878	426	94096	476	76070
277	24798	327	45478	377	63414	427	6304279	477	85134
278	40448	328	58738	378	74918	428	14438	478	94279
279	56042	329	71959	379	86392	429	24573	479	6803355
280	71580	330	85139	380	97836	430	34685	480	12412
281	87063	331	98280	381	5809250	431	44773	481	21451
282	4502491	332	5211381	382	20634	432	54837	482	30470
283	17864	333	24442	383	31988	433	64879	483	39471
284	33183	334	37465	384	43312	434	74897	484	48454
285	48449	335	50448	385	54607	435	84893	485	57417
286	63660	336	63393	386	65873	436	94865	486	66363
287	78819	337	76299	387	77110	437	6404314	487	75290
288	93925	338	89167	388	88317	438	14741	488	84198
289	4608978	339	5301997	389	99496	439	24645	489	93089
290	23980	340	14789	390	5910646	440	34527	490	6901961
291	38930	341	27544	391	21768	441	44386	491	10815
292	53829	342	40261	392	32861	442	54223	492	19651
293	68676	343	52941	393	43926	443	64037	493	28469
294	83473	344	65584	394	54962	444	73830	494	37269
295	98220	345	78191	395	65971	445	83600	495	46052
296	4712917	346	90761	396	76952	446	93349	496	54817
297	27564	347	5403295	397	87905	447	6503075	497	63564
298	42163	348	15792	398	98831	448	12780	498	72293
299	56712	349	28254	399	6009729	449	22463	499	81005

Num	Log.	Num	Log.	Num	Log.	Num	Log.	Num	Log.
	Ind. 2.		Ind. 2.		Ind. 2.		Ind. 2.		Ind. 2.
500	6989700	550	7403627	600	7781513	650	8129134	700	8450980
501	98377	551	11516	601	88745	651	35810	701	57180
502	7007037	552	19391	602	95965	652	42476	702	63371
503	15680	553	27251	603	7803173	653	49132	703	69553
504	24305	554	35098	604	10369	654	55777	704	75727
505	32914	555	42930	605	17554	655	62413	705	81891
506	41505	556	50748	606	24726	656	69038	706	88047
507	50380	557	58552	607	31887	657	75654	707	94194
508	58637	558	66342	608	39036	658	82259	708	8500333
509	67178	559	74118	609	46173	659	88854	709	06462
510	75702	560	81880	610	53298	660	95439	710	12583
511	84209	561	89629	611	60412	661	8202015	711	18696
512	92700	562	97363	612	67514	662	08580	712	24800
513	7101174	563	7505084	613	74505	663	15135	713	30895
514	09631	564	12791	614	81684	664	21681	714	36982
515	18072	565	20484	615	88751	665	28216	715	43060
516	26497	566	28164	616	95807	666	34742	716	49159
517	34905	567	35831	617	7902852	667	41258	717	55192
518	43298	568	43483	618	09885	668	47765	718	61244
519	51674	569	51123	619	16906	669	54261	719	67289
520	60033	570	58749	620	23917	670	60748	720	73325
521	68377	571	66361	621	30916	671	67225	721	79353
522	76705	572	73960	622	37904	672	73693	722	85372
523	85017	573	81546	623	44880	673	80151	723	91383
524	93313	574	89119	624	51846	674	86599	724	97386
525	7201593	575	96678	625	58800	675	93098	725	8603380
526	09857	576	7604225	626	65743	676	99467	726	09366
527	18106	577	11758	627	72675	677	8305887	727	15344
528	26339	578	19278	628	79596	678	12297	728	21314
529	34557	579	26786	629	86506	679	18698	729	27275
530	42759	580	34280	630	93405	680	25089	730	33229
531	50945	581	41761	631	8000294	681	31471	731	39174
532	59116	582	49230	632	07171	682	37844	732	45111
533	67272	583	56686	633	14037	683	44207	733	51040
534	75413	584	64128	634	20893	684	50561	734	56968
535	83538	585	71559	635	27737	685	56906	735	62873
536	91648	586	78976	636	34571	686	63241	736	68776
537	99743	587	86381	637	41394	687	69567	737	74675
538	7307823	588	93773	638	48207	688	75884	738	80564
539	15888	589	7701153	639	55009	689	82192	739	86444
540	23938	590	08520	640	61800	690	88491	740	92317
541	31973	591	15875	641	68580	691	94780	741	98182
542	39993	592	23217	642	75350	692	8401061	742	8704039
543	47998	593	30547	643	82110	693	07332	743	09588
544	55989	594	37864	644	88859	694	13595	744	15729
545	63965	595	45170	645	95597	695	19848	745	21563
546	71926	596	52463	646	8102325	696	26092	746	27388
547	79873	597	59743	647	09043	697	32328	747	33206
548	87806	598	67012	648	15750	698	38554	748	39016
549	95723	599	74268	549	22447	699	44772	749	44819

to 101000.

N. 750. L. 87

Num	Log.	Num	Log.	Num	Log.	Num	Log.	Num	Log.
	Ind. 2.		Ind. 2.		Ind. 2.		Ind. 2.		Ind. 2.
750	8750613	800	9030900	850	9294189	900	9542425	950	9777236
751	56399	801	36325	851	99296	901	47248	951	81805
752	62178	802	41744	852	9304396	902	52065	952	86369
753	67950	803	47155	853	09490	903	56878	953	90929
754	73713	804	52560	854	14579	904	61684	954	95484
755	79470	805	57959	855	19661	905	66486	955	9800034
756	85218	806	63350	856	24738	906	71282	956	04579
757	90959	807	68735	857	29808	907	76073	957	09119
758	96692	808	74114	858	34873	908	80858	958	13655
759	8802418	809	79485	859	39932	909	85639	959	18186
760	08136	810	84850	860	44985	910	90414	960	22712
761	13847	811	90209	861	50032	911	95184	961	27234
762	19550	812	95560	862	55073	912	99948	962	31751
763	25245	813	9100905	863	60108	913	9604708	963	36263
764	30934	814	06244	864	65137	914	02462	964	40770
765	36614	815	11576	865	70161	915	14211	965	45273
766	42288	816	16902	866	75179	916	18955	966	49771
767	47954	817	22221	867	80191	917	23693	967	54265
768	53612	818	27533	868	85197	918	28427	968	58754
769	59263	819	32839	869	90198	919	33155	969	63238
770	64907	820	38139	870	95193	920	37878	970	67717
771	70544	821	43432	871	9400182	921	42596	971	72192
772	76173	822	48718	872	05165	922	47309	972	76663
773	81795	823	53998	873	10142	923	52017	973	81128
774	87410	824	59272	874	15114	924	56720	974	85590
775	93017	825	64539	875	20081	925	61417	975	90046
776	98617	826	69800	876	25041	926	66110	976	94498
777	8904210	827	75055	877	29996	927	70797	977	98946
778	09796	828	80303	878	34945	928	75480	978	9903382
779	15375	829	85545	879	39889	929	80157	979	07827
780	20946	830	90781	880	44827	930	84829	980	12261
781	26510	831	96010	881	49759	931	89497	981	16690
782	32068	832	9201233	882	54686	932	94159	982	21115
783	37618	833	06450	883	59607	933	98816	983	25535
784	43161	834	11661	884	64523	934	9703469	984	29951
785	48697	835	16865	885	69433	935	08116	985	34362
786	54225	836	22063	886	74337	936	12758	986	38769
787	59747	837	27255	887	79236	937	17396	987	43172
788	65262	838	32440	888	84130	938	22028	988	47569
789	70770	839	37620	889	89018	939	26656	989	51963
790	76271	840	42793	890	93900	940	31279	990	56352
791	81765	841	47960	891	98777	941	35896	991	60737
792	87252	842	53121	892	9503649	942	40509	992	65117
793	92732	843	58276	893	08515	943	45117	993	69492
794	98205	844	63424	894	13375	944	49720	994	73864
795	9003671	845	68567	895	18230	945	54318	995	78231
796	02131	846	73704	896	23080	946	58211	996	82593
797	14583	847	78834	897	27924	947	63500	997	86952
798	20029	848	83959	898	32763	948	68083	998	91305
799	25468	849	89077	899	37597	949	72662	999	05655

N. 10000. L. 000.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1000	000.0000	0434	0869	1303	1737	2171	2605	3039	3473	3907	344	432
01	4341	4775	5208	5642	6076	6510	6943	7377	7810	8244	1-43	
02	8677	9111	9544	9977	0411	0844	1277	1710	2143	2576	433	2-86
03	001.3009	3442	3875	4308	4741	5174	5607	6039	6472	6905	3-130	
04	7337	7770	8202	8635	9067	9499	9932	0364	0796	1228	432	4-173
05	002.1661	2093	2525	2957	3389	3821	4253	4685	5116	5548	5-216	
06	5980	6411	6843	7275	7706	8138	8569	9001	9432	9863	431	6-259
07	003.0295	0726	1157	1588	2019	2451	2882	3313	3744	4174	7-302	
08	4605	5036	5467	5898	6328	6759	7190	7620	8051	8481	8-346	
09	8912	9342	9772	0203	0633	1063	1493	1924	2354	2784	430	9-389
1010	004.3214	3644	4074	4504	4933	5363	5793	6223	6652	7082		428
11	7512	7941	8371	8800	9229	9659	0088	0517	0947	1376	429	1-43
12	005.1805	2234	2663	3092	3521	3950	4379	4808	5237	5666	2-86	
13	6094	6523	6952	7380	7809	8238	8666	9094	9523	9951	3-128	
14	006.0380	0808	1236	1664	2092	2521	2949	3377	3805	4233	428	4-171
15	4660	5088	5516	5944	6372	6799	7227	7655	8082	8510	5-214	
16	8937	9365	9792	0219	0647	1074	1501	1928	2355	2782	427	6-257
17	007.3210	3637	4064	4490	4917	5344	5771	6198	6624	7051	7-300	
18	7478	7904	8331	8757	9184	9610	0037	0463	0889	1316	426	8-342
19	008.1742	2168	2594	3020	3446	3872	4298	4724	5150	5576	9-385	
1020	6002	6427	6853	7279	7704	8130	8556	8981	9407	9832		424
21	009.0257	0683	1108	1533	1959	2384	2809	3234	3659	4084	425	1-42
22	4509	4934	5359	5784	6208	6633	7058	7483	7907	8332	2-85	
23	8756	9181	9605	0030	0454	0878	1303	1727	2151	2575	424	3-127
24	010.3000	3424	3848	4272	4696	5120	5544	5967	6391	6815	4-170	
25	7239	7662	8086	8510	8933	9357	9780	0204	0627	1050	423	5-212
26	011.1474	1897	2320	2743	3166	3590	4013	4436	4859	5282	5-254	
27	5704	6127	6550	6973	7396	7818	8241	8664	9086	9509	7-297	
28	9931	0354	0776	1198	1621	2043	2465	2887	3310	3732	422	8-339
29	012.4154	4576	4998	5420	5842	6254	6675	7107	7529	7951	9-382	
1030	8372	8794	9215	9637	0059	0480	0901	1323	1744	2165	421	420
31	013.2587	3008	3429	3850	4271	4692	5113	5534	5955	6376	1-42	
32	6797	7218	7639	8059	8480	8901	9321	9742	0162	0583	2-84	
33	014.1003	1424	1844	2264	2685	3105	3525	3945	4365	4785	420	3-126
34	5205	5625	6045	6465	6885	7305	7725	8144	8564	8984	4-168	
35	9403	9823	0243	0662	1082	1501	1920	2340	2759	3178	419	5-210
36	015.3598	4017	4436	4855	5274	5693	6112	6531	6950	7369	6-252	
37	7788	8206	8625	9044	9462	9881	0300	0718	1137	1555	7-294	
38	016.1974	2392	2810	3229	3647	4065	4483	4901	5319	5737	418	8-336
39	6155	6573	6991	7409	7827	8245	8663	9080	9498	9916	9-378	
1040	017.0333	0751	1168	1586	2003	2421	2838	3256	3673	4090	417	416
41	4507	4924	5342	5759	6176	6593	7010	7427	7844	8260	1-42	
42	8677	9094	9511	9927	0344	0761	1177	1594	2010	2427	2-83	
43	018.2843	3259	3676	4092	4508	4925	5341	5757	6173	6589	416	3-125
44	7005	7421	7837	8253	8669	9084	9500	9916	0332	0747	4-166	
45	019.1163	1578	1994	2410	2825	3240	3656	4071	4486	4902	415	5-208
46	5317	5732	6147	6562	6977	7392	7807	8222	8637	9052	6-250	
47	9467	9882	0296	0711	1126	1540	1955	2369	2784	3198	7-291	
48	020.3613	4027	4442	4856	5270	5684	6099	6513	6927	7341	414	8-333
49	7755	8169	8583	8997	9411	9824	0238	0652	1066	1479	9-374	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

10 101000.

N. 10500. L. 021

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
10500	021.1893	2307	2720	3134	3547	3951	4374	4787	5201	5614	413	412
51	6027	6440	6854	7267	7680	8093	8506	8919	9332	9745		1-41
52	022.0157	0570	0983	1396	1808	2221	2634	3046	3459	3871		2-82
53	4284	4696	5109	5521	5933	6345	6758	7170	7582	7994	412	3-124
54	8406	8818	9230	9642	0054	0466	0878	1289	1701	2113		4-165
55	023.2525	2936	3348	3759	4171	4582	4994	5405	5817	6228	411	5-206
56	6639	7050	7462	7873	8284	8695	9106	9517	9928	0339		6-247
57	024.0750	1161	1572	1982	2393	2804	3214	3625	4036	4446		7-288
58	4857	5267	5678	6088	6498	6909	7319	7729	8139	8549	410	8-330
59	8950	9370	9780	0190	0600	1010	1419	1829	2239	2649		9-371
10600	025.3059	3468	3878	4288	4697	5107	5516	5926	6335	6744		408
61	7154	7563	7972	8382	8791	9200	9609	0018	0427	0836	409	1-41
62	026.1245	1654	2063	2472	2881	3289	3698	4107	4515	4924		2-82
63	5333	5741	6150	6558	6967	7375	7783	8192	8600	9008		3-122
64	9416	9824	0233	0641	1049	1457	1865	2273	2680	3088	405	4-163
65	027.3496	3904	4312	4719	5127	5535	5942	6350	6757	7165		5-204
66	7572	7979	8387	8794	9201	9609	0016	0423	0830	1237	407	6-245
67	028.1644	2051	2458	2865	3272	3679	4086	4492	4899	5306		7-286
68	5713	6119	6526	6932	7339	7745	8152	8558	8964	9371	406	8-326
69	9777	0183	0590	0996	1402	1808	2214	2620	3026	3432		9-367
10700	029.3838	4244	4649	5055	5461	5867	6272	6678	7084	7489		404
71	7895	8300	8706	9111	9516	9922	0327	0732	1138	1543	405	1-40
72	030.1948	2353	2758	3163	3568	3973	4378	4783	5188	5592		2-81
73	5997	6402	6807	7211	7616	8020	8425	8830	9234	9638		3-121
74	031.0043	0447	0851	1256	1660	2064	2468	2872	3277	3681	404	4-162
75	4085	4489	4893	5296	5700	6104	6508	6912	7315	7719		5-202
76	8123	8526	8930	9333	9737	0140	0544	0947	1350	1754	403	6-242
77	032.2157	2560	2963	3367	3770	4173	4576	4979	5382	5785		7-233
78	6188	6590	6993	7395	7799	8201	8604	9007	9409	9812		8-323
79	033.0214	0617	1019	1422	1824	2226	2629	3031	3433	3835	402	9-364
10800	4238	4640	5042	5444	5846	6248	6650	7052	7453	7855		401
81	8257	8659	9060	9462	9864	0265	0667	1068	1470	1871		1-40
82	034.2273	2674	3075	3477	3878	4279	4680	5081	5482	5884	401	2-80
83	6285	6686	7087	7487	7888	8289	8690	9091	9491	9892		3-120
84	035.0293	0693	1094	1495	1895	2296	2696	3096	3497	3897	400	4-160
85	4297	4698	5098	5498	5898	6298	6698	7098	7498	7898		5-200
86	8298	8698	9098	9498	9898	0297	0697	1097	1496	1896		6-241
87	036.2295	2695	3094	3494	3893	4293	4692	5091	5491	5890	399	7-281
88	6289	6688	7087	7486	7885	8284	8683	9082	9481	9880		8-321
89	037.0279	0678	1076	1475	1874	2272	2671	3070	3468	3867		9-361
10900	4265	4663	5062	5460	5858	6257	6655	7053	7451	7849	398	397
91	8248	8646	9044	9442	9839	0237	0635	1033	1431	1829		1-40
92	038.2226	2624	3022	3419	3817	4214	4612	5009	5407	5804		2-79
93	6202	6599	6996	7393	7791	8188	8585	8982	9379	9775	397	3-119
94	039.0173	0570	0967	1364	1761	2158	2554	2951	3348	3745		4-159
95	4141	4538	4934	5331	5727	6124	6520	6917	7313	7709	396	5-198
96	8106	8502	8898	9294	9690	0087	0482	0878	1274	1670		6-238
97	040.2066	2462	2858	3254	3650	4045	4441	4837	5232	5628		7-278
98	6023	6419	6814	7210	7605	8001	8396	8791	9187	9582	395	8-318
99	9977	0372	0767	1162	1557	1952	2347	2742	3137	3532		9-357
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1100	041.3927	43224	4716	5111	5506	5900	6295	6690	7084	7479	395	393
01	7873	8268	8662	9056	9451	9845	0239	0633	1028	1422	394	1-39
02	042.1816	2210	2604	2998	3392	3786	4180	4574	4968	5361		2-79
03	5755	6149	6543	6936	7330	7723	8117	8510	8904	9297		3-118
04	9691	0084	0477	0871	1264	1657	2050	2444	2837	3230	393	4-157
05	043.3623	4016	4409	4802	5195	5587	5980	6373	6766	7159		5-196
06	7551	7944	8337	8729	9122	9514	9907	0299	0692	1084	392	6-236
07	044.1476	1869	2261	2653	3045	3437	3829	4222	4614	5006		7-275
08	5398	5790	6181	6573	6965	7357	7749	8140	8532	8924		8-314
09	9315	9707	0099	0490	0882	1273	1664	2056	2447	2839	391	9-354
1110	045.3230	3621	4012	4403	4795	5186	5577	5968	6359	6750		390
11	7141	7531	7922	8313	8704	9095	9485	9876	0267	0657		1-39
12	046.1048	1438	1829	2219	2610	3000	3391	3781	4171	4561	390	2-78
13	4952	5342	5732	6122	6512	6902	7292	7682	8072	8462		3-117
14	8852	9242	9632	0021	0411	0801	1190	1580	1970	2359		4-156
15	047.2749	3138	3528	3917	4306	4696	5085	5474	5864	6253	389	5-195
16	6642	7031	7420	7809	8198	8587	8976	9365	9754	0143		6-234
17	048.0532	0921	1309	1698	2087	2475	2864	3253	3641	4030		7-273
18	4418	4806	5195	5583	5972	6360	6748	7136	7525	7913	388	8-312
19	8301	8689	9077	9465	9853	0241	0629	1017	1405	1792		9-351
1120	049.2180	2568	2956	3343	3731	4119	4506	4894	5281	5669		386
21	6056	6444	6831	7218	7606	7993	8380	8767	9154	9541	387	1-39
22	9929	0316	0703	1090	1477	1863	2250	2637	3024	3411		2-77
23	050.3798	4184	4571	4958	5344	5731	6117	6504	6890	7277		3-116
24	7663	8049	8435	8822	9208	9595	9981	0367	0753	1139	386	4-154
25	051.1525	1911	2297	2683	3069	3455	3841	4227	4612	4998		5-193
26	5384	5770	6155	6541	6926	7312	7697	8083	8468	8854		6-232
27	9239	9624	0010	0395	0780	1166	1551	1936	2321	2706	385	7-270
28	052.3091	3476	3861	4246	4631	5016	5400	5785	6170	6555		8-309
29	6939	7324	7709	8093	8478	8862	9247	9631	0016	0400		9-348
1130	053.0784	1169	1553	1937	2321	2706	3090	3474	3858	4242	384	382
31	4626	5010	5394	5778	6162	6546	6929	7313	7697	8081		1-38
32	8464	8848	9232	9615	9999	0382	0766	1149	1532	1916	383	2-77
33	054.2299	2682	3066	3449	3832	4215	4598	4981	5365	5748		3-115
34	6131	6514	6896	7279	7662	8045	8428	8811	9193	9576		4-153
35	9959	0341	0724	1106	1489	1871	2254	2636	3019	3401	382	5-191
36	055.3783	4166	4548	4930	5312	5694	6077	6459	6841	7223		6-230
37	7605	7987	8369	8750	9132	9514	9896	0278	0659	1041		7-268
38	056.1423	1804	2185	2567	2949	3330	3712	4093	4475	4856	381	8-306
39	5237	5619	6000	6381	6762	7143	7524	7905	8287	8668		9-345
1140	059.9049	9429	9810	0191	0572	0953	1334	1714	2095	2476		379
41	057.2863	3237	3618	3998	4379	4759	5140	5520	5900	6281	380	1-38
42	6661	7041	7422	7802	8182	8562	8942	9322	9702	0082		2-76
43	058.0462	0842	1222	1602	1982	2362	2741	3121	3501	3881		3-114
44	4260	4640	5019	5399	5778	6158	6537	6917	7296	7676	379	4-152
45	8055	8434	8813	9193	9572	9951	0330	0709	1088	1467		5-189
46	059.1846	2225	2604	2983	3362	3741	4119	4498	4877	5256		6-228
47	5634	6013	6391	6770	7148	7527	7905	8284	8662	9041	375	7-265
48	9419	9797	0175	0554	0932	1310	1688	2066	2444	2822		8-303
99	060.3200	3578	3956	4334	4712	5090	5468	5845	6223	6601		9-341
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 11500. L. 060

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1150	060.6978	7356	7734	8111	8489	8866	9244	9621	9999	0376	377	376
51	061.0753	1131	1508	1885	2262	2639	3017	3394	3771	4148		1-38
52	4525	4902	5279	5656	6032	6409	6786	7163	7540	7916		2-75
53	8293	8670	9046	9423	9799	0176	0552	0929	1305	1682		3-113
54	062.2058	2434	2811	3187	3563	3939	4316	4692	5068	5444	376	4-150
55	5820	6196	6572	6948	7324	7699	8075	8451	8827	9203		5-188
56	9578	9954	0330	0705	1081	1456	1832	2207	2583	2958		6-226
57	063.3334	3709	4084	4460	4835	5210	5585	5960	6335	6711	375	7-263
58	7086	7461	7836	8211	8585	8960	9335	9710	0085	0460		8-301
59	064.0834	1209	1584	1958	2333	2708	3082	3457	3831	4205		9-338
1160	4580	4954	5329	5703	6077	6451	6826	7200	7574	7948	374	373
61	8322	8696	9070	9444	9818	0192	0566	0940	1314	1688		1-37
62	065.2061	2435	2809	3182	3556	3930	4303	4677	5050	5424		2-75
63	5797	6171	6544	6917	7291	7664	8037	8410	8784	9157	373	3-112
64	9530	9903	0276	0649	1022	1395	1768	2141	2514	2886		4-149
65	066.3259	3632	4005	4377	4750	5123	5495	5868	6241	6613		5-186
66	6986	7358	7730	8103	8475	8847	9220	9592	9964	0336	372	6-121
67	067.0709	1081	1453	1825	2197	2569	2941	3313	3685	4057		7-261
68	4428	4800	5172	5544	5915	6287	6659	7030	7402	7774		8-298
69	8145	8517	8888	9259	9631	0002	0374	0745	1116	1487	371	9-336
1170	068.1859	2230	2601	2972	3343	3714	4085	4456	4827	5198		370
71	5569	5940	6311	6681	7052	7423	7794	8164	8535	8906		1-37
72	9276	9647	0017	0388	0758	1129	1499	1869	2240	2610	370	2-74
73	069.2980	3350	3721	4091	4461	4831	5201	5571	5941	6311		3-111
74	6681	7051	7421	7791	8160	8530	8900	9270	9639	0009		4-148
75	170.0379	0748	1118	1487	1857	2225	2595	2965	3335	3704	369	5-185
76	4073	4442	4812	5181	5550	5919	6288	6658	7027	7396		6-222
77	7765	8134	8503	8871	9240	9609	9978	0347	0715	1084		7-259
78	071.1453	1822	2190	2559	2927	3296	3664	4033	4401	4770		8-296
79	5138	5506	5875	6243	6611	6979	7348	7716	8084	8452	368	9-333
1180	8820	9188	9556	9924	0292	0660	1028	1396	1763	2131		366
81	072.2499	2867	3234	3602	3970	4337	4705	5072	5440	5807		1-37
82	6175	6542	6910	7277	7644	8011	8379	8746	9113	9480	367	2-73
83	9847	0215	0582	0949	1316	1683	2050	2416	2783	3150		3-110
84	073.3517	3884	4251	4617	4984	5351	5717	6084	6450	6817		4-146
85	7184	7550	7916	8283	8649	9016	9382	9748	0114	0481	366	5-183
86	074.0847	1213	1579	1945	2311	2677	3043	3409	3775	4141		6-220
87	4507	4873	5239	5605	5970	6336	6702	7068	7433	7799		7-256
88	8164	8530	8895	9261	9626	9992	0357	0723	1088	1453	365	8-293
89	075.1819	2184	2549	2914	3279	3644	4010	4375	4740	5105		9-329
1190	5470	5835	6199	6564	6929	7294	7659	8024	8388	8753		364
91	9118	9482	9847	0211	0576	0940	1305	1669	2034	2398	364	1-36
92	076.2763	3127	3491	3855	4220	4584	4948	5312	5676	6040		2-73
93	6404	6768	7132	7496	7860	8224	8588	8952	9316	9680		3-109
94	077.0043	0407	0771	1134	1498	1862	2225	2588	2952	3316		4-146
95	3679	4042	4406	4769	5133	5496	5859	6222	6585	6949	363	5-182
96	7312	7675	8038	8401	8764	9127	9490	9853	0216	0579		6-218
97	078.0942	1304	1667	2030	2393	2755	3118	3480	3843	4206		7-255
98	4568	4931	5293	5656	6018	6380	6743	7105	7467	7830	362	8-291
99	8192	8554	8916	9278	9640	0003	0365	0727	1089	1451		9-328
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D Pts.		
1200	079.	1812	2174	2536	2898	3260	3622	3983	4345	4707	5068	362	363
01		5430	5792	6153	6515	6876	7238	7599	7961	8322	8683	361	1-36
02		9045	9406	9767	0128	0490	0851	1212	1573	1934	2295		2-73
03	080.	2656	3017	3378	3739	4100	4461	4822	5183	5543	5904		3-109
04		6265	6626	6986	7347	7707	8068	8429	8789	9150	9510		4-145
05		9870	0231	0591	0952	1312	1672	2032	2393	2753	3113	360	5-181
06	081.	3473	3833	4193	4553	4913	5273	5633	5993	6353	6713		6-218
07		7073	7432	7792	8152	8512	8871	9231	9591	9950	0310		7-254
08	082.	0669	1029	1388	1748	2107	2467	2826	3185	3545	3904	359	8-290
09		4263	4622	4981	5341	5700	6059	6418	6777	7136	7495		9-327
1210		7854	8213	8571	8930	9289	9648	0007	0365	0724	1083		360
11	083.	1441	1800	2159	2517	2876	3234	3593	3951	4309	4668	358	1-36
12		5026	5385	5743	6101	6459	6817	7176	7534	7892	8250		2-72
13		8608	8966	9324	9682	0040	0398	0756	1114	1471	1829		3-108
14	084.	2187	2545	2902	3260	3518	3975	4332	4690	5048	5405		4-144
15		5763	6120	6478	6835	7192	7550	7907	8264	8621	8979	357	5-180
16		9336	9693	0050	0407	0764	1121	1478	1835	2192	2549		6-216
17	085.	2906	3263	3619	3976	4333	4690	5046	5403	5760	6116		7-252
18		6473	6829	7186	7542	7899	8255	8612	8968	9324	9681	356	8-288
19	086.	0037	0393	0750	1106	1462	1818	2174	2530	2886	3242		9-324
1220		3598	3954	4310	4666	5022	5378	5734	6089	6445	6801		357
21		7157	7512	7868	8224	8579	8935	9290	9646	0001	0357		1-36
22	087.	0712	1067	1423	1778	2133	2489	2844	3199	3554	3909	355	2-71
23		4255	4620	4975	5330	5685	6040	6395	6750	7104	7459		3-107
24		7814	8169	8524	8878	9233	9588	9943	0297	0652	1006		4-143
25	088.	1361	1715	2070	2424	2779	3133	3488	3842	4196	4550	354	5-178
26		4905	5259	5613	5967	6321	6676	7030	7384	7738	8092		6-214
27		8445	8800	9153	9507	9861	0215	0569	0923	1276	1630		7-250
28	089.	1984	2337	2691	3045	3398	3752	4105	4459	4812	5165		8-286
29		5519	5872	6226	6579	6932	7285	7639	7992	8345	8698	353	9-321
1230		9051	9404	9757	0110	0463	0816	1169	1522	1875	2228		354
31	090.	2481	2833	3186	3539	3991	4344	4697	5049	5402	5755		1-35
32		6107	6460	6812	7164	7517	7869	8222	8574	8926	9279	352	2-71
33		9631	9983	0335	0687	1039	1392	1744	2096	2448	2800		3-106
34	091.	3152	3504	3855	4207	4559	4911	5263	5614	5966	6318		4-142
35		6670	7021	7373	7724	8076	8427	8779	9130	9482	9833		5-177
36	092.	0185	0536	0887	1239	1590	1941	2292	2644	2995	3346	351	6-212
37		3697	4048	4399	4750	5101	5452	5803	6154	6505	6856		7-248
38		7206	7557	7908	8259	8609	8960	9311	9661	0012	0363		8-283
39	093.	0713	1064	1414	1764	2115	2465	2816	3166	3516	3867	350	9-319
1240		4217	4567	4917	5267	5618	5968	6318	6668	7018	7368		351
41		7718	8068	8418	8768	9117	9467	9817	0167	0517	0866		1-35
42	094.	1216	1566	1915	2265	2614	2964	3313	3663	4012	4362		2-70
43		4711	5061	5410	5759	6109	6458	6807	7156	7506	7855	349	3-105
44		8204	8553	8902	9251	9600	9949	0298	0647	0996	1345		4-140
45	095.	1694	2042	2391	2740	3089	3437	3786	4135	4483	4832		5-175
46		5180	5529	5877	6226	6574	6923	7271	7620	7968	8316	348	6-211
47		8665	9013	9361	9709	0057	0406	0754	1102	1450	1798		7-246
48	096.	2146	2494	2842	3190	3538	3885	4233	4581	4929	5277		8-281
49		5624	5972	6320	6667	7015	7363	7710	8058	8405	8753		9-316
Num	0	1	2	3	4	5	6	7	8	9	D Pro.		

This Table of Proportional Parts is a Supplement to the last Columns (intitled Pts.Pro.) in the 5 preceding Pages.

Pts. Pro.			D.	1	2	3	4	5	6	7	8	9
1	362	361	THE Index in this Table of Logarithms being left out, it may be thus supplied, viz. The Index of the Log. sought, is always an Units less than the Number of Places in the Absolute Number propos'd: For the Index gives the Distance of the highest Place in the Absolute Number from Unity.									
2	72	72	Having here a little room, we'll direct how to find the Logarithms of 12345, 123459 and 1234598. We take the advantage of these Numbers, because in sight.									
3	109	108	The Number 12345 is found thus, viz. 1234 in the first Column, and 5 at the head of the Table; and its Log. viz. 0914911, is thus found, viz. 091 (the 3 first Figures) in the second Column, and 4911 (the 4 last Figures) in the Column under 5, and against 1234.									
4	145	144	If the Log. of 123459 be sought, find the Log. of 12345, as before, and note the Difference (in the Column sign'd D) which is 352, which find in the Column of Pts. Pro. under which and against 9 is 317, which added to the Log. of 12345, makes the Log. of 123459, when a proper Index is prefix'd.									
5	181	180	If the Log. of 1234598 be wanted, find the first 6 places by the last, and for the 7th place (which in this Example is 8) find it in the same Col. of Pts. Pro. as before, against which is 382, which must be divided by 10, and then added to the Log. of 123459; the Sum is the Log. of 1234598, when a proper Index is prefix'd. See the whole Work.									
6	217	217										
7	253	253										
8	290	289										
9	326	325										
1	359	358										
2	36	36										
3	72	72										
4	108	107										
5	144	143										
6	179	179										
7	215	215										
8	251	251										
9	287	286										
1	323	322										
2	356	355										
3	36	35										
4	71	71										
5	107	106										
6	142	142										
7	178	177										
8	214	213										
9	249	248										
1	285	284										
2	320	319										
3	353	352										
4	35	35										
5	71	70										
6	106	106										
7	141	141										
8	176	176										
9	212	211										
1	247	246										
2	282	282										
3	318	317										
4	350	349										
5	35	35										
6	70	70										
7	105	105										
8	140	140										
9	175	174										
1	210	209										
2	245	244										
3	280	279										
4	315	314										
5	175	174	Num. Logar.									
6	210	209	12345 4.0914911									
7	245	244	Pts.Pro. against 9 317									
8	280	279	123459 5.0915228									
9	315	314	Pts.Pro. against 8 28.2									
			1234598 6.0915256									

D.	1	2	3	4	5	6	7	8	9	Pts. Pro.
333	33	67	100	133	166	200	233	266	300	348
332	33	66	100	133	166	199	232	266	299	347
331	33	66	99	132	165	199	232	265	298	345
329	33	66	99	132	164	197	230	263	296	344
327	33	65	98	131	163	196	229	262	294	342
326	33	66	98	130	163	196	228	261	293	341
324	32	65	97	130	162	194	227	259	292	339
322	32	64	97	129	161	193	225	258	290	337
320	32	64	96	128	160	192	224	256	288	335
319	32	64	95	128	159	191	223	255	287	334
317	32	63	95	127	158	190	222	254	285	332
315	31	63	94	126	157	189	220	252	283	330
313	31	63	94	125	156	188	219	250	282	328
312	31	62	94	125	156	187	218	250	281	326
310	31	62	93	124	155	186	217	248	279	324
308	31	62	92	123	154	185	216	246	277	322
306	31	61	92	122	153	184	214	245	275	320
304	30	61	91	122	152	182	213	243	274	318
302	30	60	91	121	151	181	211	242	272	316
300	30	60	90	120	150	180	210	240	270	314
299	30	60	90	120	149	179	209	239	269	312
297	30	59	89	119	148	178	208	238	267	310
295	29	59	88	118	147	177	206	236	265	308
293	29	59	88	117	146	176	205	234	264	306
291	29	58	87	116	145	175	204	233	262	304
288	29	58	86	115	144	173	202	230	259	302
286	29	57	86	114	143	172	200	229	257	300
284	28	57	85	114	142	170	199	227	256	298
282	28	56	85	113	141	169	197	226	254	296
280	28	56	84	112	140	168	196	224	252	294
277	28	55	83	111	138	166	194	222	249	292
275	27	55	82	110	137	165	192	220	247	290
273	27	55	82	109	136	164	191	218	246	288
270	27	54	81	108	135	162	189	216	243	286
268	27	54	80	107	134	161	188	214	241	284
265	26	53	79	106	132	159	185	212	238	282
263	26	53	79	105	131	158	184	210	237	280
260	26	52	78	104	130	156	182	208	234	278
257	26	51	77	103	128	154	180	206	231	276
254	25	51	76	102	127	152	178	203	229	274
251	25	50	75	100	125	151	176	201	226	272
248	25	50	74	99	124	149	174	198	223	270
244	24	49	73	98	122	146	171	195	220	268
240	24	48	72	96	120	144	168	192	216	266
236	24	47	71	94</						

It's plain by the Work, that the 7 Figures that this Logarithm belongs to, without the Index, is 1293675. But because the Index is 4. the Absolute Number must be 5 places, the last 2 places are a Decimal Fraction, and the true Num^b is 129367 $\frac{5}{100}$. If the L had been 5.111825, the Absolute Number would be 129367 $\frac{5}{10}$; if the Index was 2, the Number answering would be 129367 $\frac{5}{100}$; if the Index had been 6, the 7 places had been all whole Numbers

Pts. Pro.	
1	348
2	35
3	70
4	104
5	139
6	174
7	209
8	244
9	278
1	313
2	345
3	34
4	69
5	103
6	138
7	172
8	207
9	241
1	276
2	310
3	342
4	34
5	68
6	103
7	137
8	171
9	205
1	239
2	273
3	308
4	339
5	34
6	68
7	102
8	136
9	169
1	203
2	237
3	271
4	305
5	336
6	34
7	67
8	101
9	134
1	168
2	202
3	235
4	269
5	302
6	335
7	34
8	67
9	100
1	134
2	168
3	202
4	235
5	269
6	302
7	335
8	34
9	67
1	100
2	134
3	168
4	202
5	235
6	269
7	302
8	335
9	34
1	67
2	100
3	134
4	168
5	202
6	235
7	269
8	302
9	335

to 101000.

N. 12500. L. 096

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1250	096.9100	9448	9795	0142	0490	0837	1184	1531	1879	2226	347	345
51	097.2573	2920	3267	3614	3962	4309	4656	5003	5349	5696		1-35
52	6043	6390	6737	7084	7431	7777	8124	8471	8817	9164		2-69
53	9511	9857	0204	0550	0897	1243	1590	1936	2283	2629	346	3-104
54	098.2975	3322	3668	4014	4360	4707	5053	5399	5745	6091		4-138
55	6437	6783	7129	7475	7821	8167	8513	8859	9205	9551		5-173
56	9896	0242	0588	0934	1279	1625	1971	2316	2662	3007		6-208
57	099.3353	3698	4044	4389	4735	5080	5425	5771	6116	6461	345	7-242
58	6806	7152	7497	7842	8187	8532	8877	9222	9567	9912		8-277
59	100.0257	0602	0947	1292	1637	1982	2327	2671	3016	3361		9-311
1260	3705	4050	4395	4739	5084	5429	5773	6118	6462	6806		343
61	7151	7495	7840	8184	8528	8873	9217	9561	9905	0249	344	1-34
62	101.0594	0938	1282	1626	1970	2314	2658	3002	3346	3690		2-69
63	4034	4377	4721	5065	5409	5752	6096	6440	6784	7127		3-103
64	7471	7814	8158	8501	8845	9188	9532	9875	0219	0562	343	4-137
65	102.0905	1249	1592	1935	2278	2621	2965	3308	3651	3994		5-171
66	4337	4680	5023	5366	5709	6052	6395	6738	7081	7423		6-206
67	7766	8109	8452	8794	9137	9480	9822	0165	0507	0850		7-240
68	103.1193	1535	1877	2220	2562	2905	3247	3589	3932	4274	342	8-274
69	4616	4958	5301	5643	5985	6327	6669	7011	7353	7695		9-309
1270	8037	8379	8721	9063	9405	9747	0089	0430	0772	1114		340
71	104.1456	1797	2139	2480	2822	3164	3505	3847	4188	4530		1-34
72	4871	5213	5554	5895	6237	6578	6919	7260	7602	7943	341	2-68
73	8284	8625	8966	9307	9648	9989	0331	0671	1012	1353		3-102
74	105.1694	2035	2376	2717	3058	3398	3739	4080	4421	4761		4-136
75	5102	5442	5783	6124	6464	6805	7145	7486	7826	8166	340	5-170
76	8507	8847	9187	9528	9868	0208	0548	0889	1229	1569		6-204
77	106.1909	2249	2589	2929	3269	3609	3949	4289	4629	4969		7-238
78	5309	5648	5988	6328	6668	7007	7347	7687	8026	8366		8-272
79	8705	9045	9385	9724	0063	0403	0742	1082	1421	1760	339	9-306
1280	107.2100	2439	2778	3117	3457	3796	4135	4474	4813	5152		337
81	5491	5830	6169	6508	6847	7186	7525	7864	8203	8541		1-34
82	8880	9219	9558	9896	0235	0574	0912	1251	1590	1928		2-67
83	108.2267	2605	2944	3282	3620	3959	4297	4635	4974	5312	338	3-101
84	5650	5988	6327	6665	7003	7341	7679	8017	8355	8693		4-135
85	9031	9369	9707	0045	0383	0721	1059	1396	1734	2072		5-168
86	109.2410	2747	3085	3423	3760	4098	4435	4773	5111	5448		6-202
87	5785	6123	6460	6798	7135	7472	7810	8147	8484	8821	337	7-236
88	9159	9496	9833	0170	0507	0844	1181	1518	1855	2192		8-270
89	110.2529	2866	3203	3540	3877	4213	4550	4887	5224	5560		9-303
1290	5897	6234	6570	6907	7244	7580	7917	8253	8590	8926		334
91	9262	9599	9935	0272	0608	0944	1280	1617	1953	2289	336	1-33
92	111.2625	2961	3297	3633	3969	4306	4642	4977	5313	5649		2-67
93	5985	6321	6657	6993	7329	7664	8000	8336	8671	9007		3-100
94	9343	9678	0014	0350	0685	1021	1356	1691	2027	2362	335	4-134
95	112.2698	3033	3368	3704	4039	4374	4709	5045	5380	5715		5-167
96	6050	6385	6720	7055	7390	7725	8060	8395	8730	9065		6-200
97	9400	9735	0069	0404	0739	1074	1408	1743	2078	2412		7-234
98	113.2747	3081	3416	3751	4085	4420	4754	5088	5423	5757	334	8-267
99	6092	6426	6760	7094	7429	7763	8097	8431	8765	9099		9-301
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1300	113.9434	9768	0102	0436	0770	1104	1437	1771	2105	2439	334	333
01	114.2773	3107	3441	3774	4108	4442	4775	5109	5443	5776		1-33
02	6110	6443	6777	7110	7444	7777	8111	8444	8777	9111	333	2-67
03	9444	9777	0111	0444	0777	1110	1444	1777	2110	2443		3-100
04	115.2776	3109	3442	3775	4108	4441	4774	5107	5439	5772		4-133
05	6105	6438	6771	7103	7436	7769	8101	8434	8767	9099		5-166
06	9432	9764	0097	0429	0762	1094	1427	1759	2091	2424	332	6-200
07	116.2756	3088	3420	3753	4085	4417	4749	5081	5413	5745		7-233
08	6077	6409	6741	7073	7405	7737	8069	8401	8733	9065		8-266
09	9396	9728	0060	0392	0723	1055	1387	1718	2050	2381		9-300
1310	117.2713	3044	3376	3707	4039	4370	4702	5033	5364	5696	331	330
11	6027	6358	6689	7021	7352	7683	8014	8345	8676	9007		1-33
12	9338	9669	0000	0331	0662	0993	1324	1655	1986	2316		2-66
13	118.2647	2978	3309	3639	3970	4301	4631	4962	5293	5623		3-99
14	5954	6284	6615	6945	7276	7606	7936	8267	8597	8927	330	4-132
15	9258	9588	9918	0248	0578	0909	1239	1569	1899	2229		5-165
16	119.2559	2889	3219	3549	3879	4209	4539	4868	5198	5528		6-198
17	5858	6187	6517	6847	7177	7506	7836	8165	8495	8825		7-231
18	9154	9484	9813	0143	0472	0801	1131	1460	1789	2119	329	8-264
19	120.2448	2777	3106	3436	3765	4094	4423	4752	5081	5410		9-297
1320	5739	6068	6397	6726	7055	7384	7713	8042	8371	8699		328
21	9028	9357	9686	0014	0343	0672	1000	1329	1657	1986		1-33
22	121.2315	2643	2972	3300	3628	3957	4285	4614	4942	5270	328	2-66
23	5598	5927	6255	6583	6911	7239	7568	7896	8224	8552		3-98
24	8880	9208	9536	9864	0192	0520	0848	1175	1503	1831		4-131
25	122.2159	2487	2814	3142	3470	3797	4125	4453	4780	5108		5-164
26	5435	5763	6090	6418	6745	7073	7400	7727	8055	8382	327	6-197
27	8709	9036	9364	9691	0018	0345	0672	1000	1327	1654		7-130
28	123.1981	2308	2635	2962	3289	3616	3942	4269	4596	4923		8-262
29	5250	5577	5903	6230	6557	6883	7210	7537	7863	8190		9-295
1330	8516	8843	9169	9496	9822	0149	0475	0802	1128	1454	326	325
31	124.1781	2107	2433	2759	3086	3412	3738	4064	4390	4716		1-32
32	5042	5368	5694	6020	6346	6672	6998	7324	7650	7976		2-65
33	8301	8627	8953	9279	9605	9930	0256	0582	0907	1233		3-97
34	125.1558	1884	2209	2535	2860	3186	3511	3837	4162	4487	325	4-130
35	4813	5138	5463	5788	6114	6439	6764	7089	7414	7739		5-162
36	8065	8390	8715	9040	9365	9690	0015	0339	0664	0989		6-195
37	126.1314	1639	1964	2288	2613	2938	3263	3587	3912	4237		7-227
38	4561	4886	5210	5535	5859	6184	6508	6833	7157	7481	324	8-260
39	7806	8130	8454	8779	9103	9427	9751	0076	0400	0724		9-292
1340	127.1048	1372	1696	2020	2344	2668	2992	3316	3640	3964		323
41	4288	4612	4935	5259	5583	5907	6230	6554	6878	7202		1-32
42	7525	7849	8172	8496	8819	9143	9466	9790	0113	0437	323	2-65
43	128.0760	1083	1407	1730	2053	2377	2700	3023	3346	3670		3-97
44	3993	4316	4639	4962	5285	5608	5931	6254	6577	6900		4-129
45	7223	7546	7869	8191	8514	8837	9160	9483	9805	0128		5-161
46	129.0451	0773	1096	1418	1741	2064	2386	2709	3031	3354		6-194
47	3676	3998	4321	4643	4965	5288	5610	5932	6255	6577	322	7-226
48	6899	7221	7543	7865	8187	8510	8832	9154	9476	9798		8-258
49	130.0119	0441	0763	1085	1407	1729	2051	2372	2694	3016		9-291
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 13500. L. 130

Num	O	I	2	3	4	5	6	7	8	9	D	Pts.
1350	130. 3338	3659	3981	4303	4624	4946	5267	5589	5911	6232	322	321
51	6553	6875	7196	7518	7839	8161	8482	8803	9124	9446	321	1-32
52	9769	0088	0409	0730	1052	1373	1694	2015	2336	2657		2-64
53	131. 2978	3299	3620	3941	4262	4583	4903	5224	5545	5866		3-96
54	6187	6507	6828	7149	7469	7790	8111	8431	8752	9072		4-128
55	9333	9713	0034	0354	0675	0995	1315	1636	1956	2277	320	5-16
56	132. 2597	2917	3237	3558	3878	4198	4518	4838	5158	5478		6-193
57	5798	6119	6439	6758	7078	7398	7718	8038	8358	8678		7-225
58	8998	9317	9637	9957	0277	0596	0916	1236	1555	1875		8-257
59	133. 2195	2514	2834	3153	3473	3792	4112	4431	4750	5070	319	9-289
1360	5389	5708	6028	6347	6666	6985	7305	7624	7943	8262		318
61	8581	8900	9219	9538	9857	0176	0495	0814	1133	1452		1-32
62	134. 1771	2090	2409	2728	3046	3365	3684	4003	4321	4640		2-64
63	4959	5277	5596	5914	6233	6551	6870	7188	7507	7825		3-95
64	8144	8462	8780	9099	9417	9735	0054	0372	0690	1008	318	4-127
65	135. 1327	1645	1963	2281	2599	2917	3235	3553	3871	4189		5-159
66	4507	4825	5143	5461	5779	6095	6414	6732	7050	7367		6-191
67	7685	8003	8320	8638	8956	9273	9591	9908	0226	0543		7-223
68	136. 0861	1178	1496	1813	2131	2448	2765	3083	3400	3717	317	8-254
69	4034	4352	4669	4986	5303	5620	5937	6255	6572	6889		9-286
1370	7206	7523	7840	8157	8473	8790	9107	9424	9741	0058		316
71	137. 0375	0691	1008	1325	1641	1958	2275	2591	2908	3225		1-32
72	3541	3858	4174	4491	4807	5124	5440	5756	6073	6389	316	2-63
73	6705	7022	7338	7654	7970	8287	8603	8919	9235	9551		3-95
74	9867	0183	0499	0815	1131	1447	1763	2079	2395	2711		4-126
75	138. 3027	3343	3659	3974	4290	4606	4922	5237	5553	5869		5-158
76	6184	6500	6816	7131	7447	7762	8078	8393	8709	9024		6-190
77	9339	9655	9970	0285	0601	0916	1231	1547	1862	2177	315	7-221
78	139. 2492	2807	3122	3438	3753	4068	4383	4698	5013	5328		8-253
79	5643	5958	6272	6587	6902	7217	7532	7847	8161	8476		9-284
1380	8791	9106	9420	9735	0050	0364	0679	0993	1308	1622		314
81	140. 1937	2251	2566	2880	3195	3509	3823	4138	4452	4766	314	1-31
82	5080	5395	5709	6023	6337	6651	6966	7280	7594	7908		2-63
83	8222	8536	8850	9164	9478	9792	0106	0419	0733	1047		3-94
84	141. 1361	1675	1988	2302	2616	2930	3243	3557	3871	4184		4-126
85	4498	4811	5125	5438	5752	6065	6379	6692	7006	7319	313	5-157
86	7632	7946	8259	8572	8885	9199	9512	9825	0138	0451		6-188
87	142. 0765	1078	1391	1704	2017	2330	2643	2956	3269	3582		7-220
88	3895	4208	4520	4833	5146	5459	5772	6084	6397	6710		8-251
89	7022	7335	7648	7960	8273	8586	8898	9211	9523	9836		9-283
1390	143. 0148	0460	0773	1085	1398	1710	2022	2335	2647	2959	312	311
91	3271	3584	3896	4208	4520	4832	5144	5456	5768	6080		1-31
92	6392	6704	7016	7328	7640	7952	8264	8576	8888	9199		2-62
93	9511	9823	0135	0446	0758	1070	1381	1693	2005	2315		3-93
94	144. 2628	2939	3251	3562	3874	4185	4497	4808	5119	5431		4-124
95	5742	6053	6365	6676	6987	7298	7610	7921	8232	8543	311	5-155
96	8854	9165	9476	9787	0098	0409	0720	1031	1342	1653		6-187
97	145. 1964	2275	2586	2897	3207	3518	3829	4140	4450	4761		7-218
98	5072	5382	5693	6004	6314	6625	6935	7246	7556	7867		8-250
99	8177	8488	8798	9108	9419	9729	0039	0350	0660	0970	310	9-281
Num	O	I	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1400	146.1280	1591	1901	2211	2521	2831	3141	3451	3761	4071	310	309
01	4381	4691	5001	5311	5621	5931	6241	6551	6861	7170		1-31
02	7490	7790	8100	8409	8719	9029	9338	9648	9958	0267		2-62
03	147.0866	0886	1196	1505	1815	2124	2434	2743	3052	3362	309	3-93
04	3671	3980	4294	4599	4908	5217	5527	5836	6145	6454		4-124
05	6763	7072	7381	7690	7999	8308	8617	8926	9235	9544		5-154
06	9853	0162	0471	0780	1089	1397	1706	2015	2324	2632		6-185
07	148.2941	3250	3558	3867	4175	4484	4793	5101	5410	5718		7-216
08	6027	6335	6643	6952	7260	7569	7877	8185	8493	8802	308	8-247
09	9110	9418	9726	0035	0343	0651	0959	1267	1575	1883		9-278
1410	149.2191	2499	2807	3115	3423	3731	4039	4347	4655	4962		307
11	5270	5578	5886	6193	6501	6809	7116	7424	7732	8039		1-31
12	8347	8655	8962	9270	9577	9885	0192	0499	0807	1114	307	2-61
13	150.1422	1729	2036	2344	2651	2958	3265	3573	3880	4187		3-92
14	4494	4801	5108	5415	5722	6030	6337	6644	6951	7257		4-123
15	7564	7871	8178	8485	8792	9099	9406	9712	0019	0326		5-153
16	151.0633	0939	1246	1553	1859	2166	2472	2779	3085	3392		6-184
17	3699	4005	4311	4618	4924	5231	5537	5843	6150	6456	306	7-215
18	6762	7069	7375	7681	7987	8293	8600	8906	9212	9518		8-246
19	9824	0130	0436	0742	1048	1354	1660	1966	2272	2578		9-276
1420	152.2883	3189	3495	3801	4107	4412	4718	5024	5329	5635		305
21	5941	6246	6552	6858	7163	7469	7774	8080	8385	8691		1-30
22	8996	9301	9607	9912	0217	0523	0828	1133	1439	1744	305	2-61
23	153.2049	2354	2659	2964	3270	3575	3880	4185	4490	4795		3-91
24	5100	5405	5710	6015	6320	6625	6929	7234	7539	7844		4-122
25	8149	8453	8758	9063	9368	9672	9977	0281	0586	0891		5-152
26	154.1195	1500	1804	2109	2413	2718	3022	3327	3631	3935	304	6-183
27	4240	4544	4848	5153	5457	5761	6065	6370	6674	6978		7-213
28	7282	7586	7890	8194	8498	8802	9106	9410	9714	0018		8-244
29	155.0322	0626	0930	1234	1538	1842	2145	2449	2753	3057		9-274
1430	3360	3664	3968	4271	4575	4879	5182	5486	5789	6093		303
31	6396	6700	7003	7307	7610	7914	8217	8520	8824	9127	303	1-30
32	9430	9733	0037	0340	0643	0946	1249	1553	1856	2159		2-61
33	156.2462	2765	3068	3371	3674	3977	4280	4583	4886	5189		3-91
34	5492	5794	6097	6400	6703	7006	7308	7611	7914	8216		4-121
35	8519	8822	9124	9427	9729	0032	0334	0637	0939	1242		5-151
36	157.1544	1847	2149	2452	2754	3056	3359	3661	3963	4265	302	6-182
37	4568	4870	5172	5474	5776	6079	6381	6683	6985	7287		7-212
38	7589	7891	8193	8495	8797	9099	9401	9702	0004	0306		8-242
39	158.0608	0910	1212	1513	1815	2117	2418	2720	3022	3323		9-273
1440	3625	3927	4228	4530	4831	5133	5434	5736	6037	6338	301	301
41	6640	6941	7243	7544	7845	8146	8448	8749	9050	9351		1-30
42	9653	9954	0255	0556	0857	1158	1459	1760	2061	2362		2-60
43	159.2663	2964	3265	3566	3867	4168	4469	4770	5070	5371		3-90
44	5672	5973	6273	6574	6875	7175	7476	7777	8077	8378		4-120
45	8678	8979	9280	9580	9881	0181	0481	0782	1082	1383	300	5-150
46	160.1683	1983	2284	2584	2884	3184	3485	3785	4085	4385		6-161
47	4685	4985	5286	5586	5886	6186	6486	6786	7086	7386		7-211
48	7686	7986	8285	8585	8885	9185	9485	9785	0084	0384		8-241
49	161.0684	0984	1283	1583	1883	2182	2482	2781	3081	3380		9-271
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 14500. L. 161

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1450	161.3680	3980	4279	4578	4878	5177	5477	5776	6075	6375	299	298
51	6674	6973	7273	7572	7871	8170	8470	8769	9068	9367		1-30
52	9666	9965	0264	0563	0852	1151	1450	1759	2058	2357		2-60
53	162.2656	2955	3254	3553	3852	4150	4449	4748	5047	5345		3-89
54	5644	5943	6241	6540	6839	7137	7436	7734	8033	8331		4-119
55	8630	8928	9227	9525	9824	0122	0420	0719	1017	1315	298	5-149
56	163.1614	1912	2210	2508	2807	3105	3403	3701	3999	4297		6-179
57	4596	4894	5192	5490	5788	6085	6384	6682	6979	7277		7-209
58	7575	7873	8171	8469	8767	9064	9362	9660	9958	0255		8-238
59	164.0553	0851	1148	1446	1743	2041	2339	2636	2934	3231		9-268
1460	3529	3826	4123	4421	4718	5016	5313	5610	5908	6205	297	296
61	6502	6799	7097	7394	7691	7988	8285	8582	8880	9177		1-30
62	9474	9771	0068	0365	0662	0959	1256	1553	1850	2146		2-59
63	165.2443	2740	3037	3334	3631	3927	4224	4521	4817	5114		3-89
64	5411	5707	6004	6301	6597	6894	7190	7487	7783	8080		4-118
65	8376	8673	8969	9265	9562	9858	0155	0451	0747	1043	295	5-148
66	166.1340	1636	1932	2228	2525	2821	3117	3413	3709	4005		6-178
67	4301	4597	4893	5189	5485	5781	6077	6373	6669	6965		7-207
68	7261	7556	7852	8148	8444	8740	9035	9331	9627	9922		8-237
69	167.0218	0514	0809	1105	1400	1696	1991	2287	2582	2878		9-266
1470	3173	3469	3764	4060	4355	4650	4946	5241	5536	5831	295	294
71	6127	6422	6717	7012	7308	7603	7898	8193	8488	8783		1-29
72	9078	9373	9668	9963	0258	0553	0848	1143	1438	1733		2-59
73	168.2027	2322	2617	2912	3207	3501	3796	4091	4386	4680		3-88
74	4975	5269	5564	5859	6153	6448	6742	7037	7331	7626		4-118
75	7320	8215	8509	8803	9098	9392	9686	9981	0275	0569	294	5-147
76	169.0864	1158	1452	1746	2040	2335	2629	2923	3217	3511		6-176
77	3805	4099	4393	4687	4981	5275	5569	5863	6157	6450		7-206
78	6744	7038	7332	7626	7920	8213	8507	8801	9094	9388		8-235
79	9682	9975	0269	0563	0856	1150	1443	1737	2030	2324		9-265
1480	170.2617	2911	3204	3497	3791	4084	4377	4671	4964	5257	293	292
81	5551	5844	6137	6430	6723	7017	7310	7603	7896	8189		1-29
82	8482	8775	9068	9361	9654	9947	0240	0533	0826	1119		2-58
83	171.1412	1704	1997	2290	2583	2876	3168	3461	3754	4046		3-88
84	4339	4632	4924	5217	5509	5802	6095	6387	6680	6972		4-117
85	7265	7557	7849	8142	8434	8727	9019	9311	9604	9896	292	5-146
86	172.0188	0480	0773	1065	1357	1649	1941	2233	2526	2818		6-175
87	3110	3402	3694	3986	4278	4570	4862	5154	5446	5737		7-204
88	6029	6321	6613	6905	7197	7488	7780	8072	8364	8655		8-234
89	8947	9239	9530	9822	0113	0405	0697	0988	1280	1571		9-263
1490	173.1863	2154	2446	2737	3028	3320	3611	3903	4194	4485	291	290
91	4776	5068	5359	5650	5941	6233	6524	6815	7106	7397		1-29
92	7688	7979	8270	8561	8852	9143	9434	9725	0016	0307		2-58
93	194.0598	0889	1180	1471	1761	2052	2343	2634	2925	3215		3-87
94	3506	3797	4087	4378	4669	4959	5250	5540	5831	6121		4-116
95	6412	6702	6993	7283	7574	7864	8155	8445	8735	9026	290	5-145
96	9316	9605	9897	0187	0477	0767	1057	1348	1638	1928		6-174
97	175.2218	2508	2798	3088	3378	3668	3958	4248	4538	4828		7-203
98	5118	5408	5698	5988	6278	6567	6857	7147	7437	7727		8-232
99	8015	8306	8596	8885	9175	9465	9754	0044	0333	0623		9-261
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1500	176.0913	1202	1492	1781	2071	2360	2649	2939	3228	3518	289	289
01	3807	4096	4386	4675	4964	5253	5543	5832	6121	6410		1-29
02	6699	6988	7278	7567	7856	8145	8434	8723	9012	9301		2-58
03	9590	9879	0168	0457	0745	1034	1323	1612	1901	2190		3-87
04	177.2478	2767	3056	3345	3633	3922	4211	4499	4788	5076		4-116
05	5365	5654	5942	6231	6519	6808	7096	7385	7673	7961	288	5-144
06	8250	8538	8826	9115	9403	9691	9980	0268	0556	0844		6-173
07	178.1133	1421	1709	1997	2285	2573	2861	3149	3437	3725		7-202
08	4013	4301	4589	4877	5165	5453	5741	6029	6317	6605		8-231
09	6892	7180	7468	7756	8043	8331	8619	8907	9194	9482		9-260
1510	9769	0057	0345	0632	0920	1207	1495	1783	2070	2357		287
11	179.2645	2932	3219	3507	3794	4082	4369	4656	4943	5231	287	1-29
12	5518	5805	6092	6380	6667	6954	7241	7528	7815	8102		2-57
13	8389	8676	8963	9250	9537	9824	0111	0398	0685	0972		3-86
14	180.1259	1546	1832	2119	2406	2693	2980	3266	3553	3840		4-115
15	4126	4413	4700	4986	5273	5559	5846	6133	6419	6706		5-143
16	6992	7278	7565	7851	8138	8424	8711	8997	9283	9570	286	6-172
17	9856	0142	0428	0715	1001	1287	1573	1859	2145	2432		7-201
18	181.2718	3004	3290	3576	3862	4148	4434	4720	5006	5292		8-230
19	5578	5864	6150	6435	6721	7007	7293	7579	7864	8150		9-258
1520	8436	8722	9007	9293	9579	9864	0150	0435	0721	1007		285
21	182.1292	1578	1863	2149	2434	2720	3005	3290	3576	3861	285	1-28
22	4147	4432	4717	5002	5288	5573	5858	6143	6429	6714		2-57
23	6999	7284	7569	7854	8140	8425	8710	8995	9280	9565		3-85
24	9850	0135	0420	0704	0989	1274	1559	1844	2129	2414		4-114
25	183.2698	2983	3268	3553	3837	4122	4407	4691	4976	5261		5-142
26	5545	5830	6114	6399	6684	6968	7253	7537	7822	8106		6-171
27	8390	8675	8959	9244	9528	9812	0096	0381	0665	0949	284	7-199
28	184.1234	1518	1802	2086	2370	2654	2939	3223	3507	3791		8-228
29	4075	4359	4643	4927	5211	5495	5779	6063	6347	6630		9-256
1530	6914	7198	7482	7766	8050	8333	8617	8901	9185	9468		283
31	9752	0036	0319	0603	0886	1170	1454	1737	2021	2304		1-28
32	185.2588	2871	3155	3437	3721	4005	4288	4572	4855	5138	283	2-57
33	5422	5705	5988	6271	6555	6838	7121	7404	7687	7970		3-85
34	8254	8537	8820	9103	9386	9669	9952	0235	0518	0801		4-113
35	186.1084	1367	1650	1932	2215	2498	2781	3064	3347	3629		5-141
36	3912	4195	4478	4760	5043	5326	5608	5891	6174	6456		6-170
37	6739	7021	7304	7586	7869	8151	8434	8716	8999	9281	282	7-198
38	9563	9846	0128	0410	0693	0975	1257	1540	1822	2104		8-226
39	187.2386	2668	2951	3233	3515	3797	4079	4361	4643	4925		9-255
1540	5207	5489	5771	6053	6335	6617	6899	7181	7463	7745		281
41	8026	8308	8590	8872	9154	9435	9717	9999	0280	0562		1-28
42	188.0844	1125	1407	1689	1970	2252	2533	2815	3096	3378		2-56
43	3659	3941	4222	4504	4785	5066	5348	5629	5910	6192	281	3-84
44	6473	6754	7035	7317	7598	7879	8160	8441	8723	9004		4-112
45	9285	9566	9847	0128	0409	0690	0971	1252	1533	1814		5-140
46	189.2095	2376	2657	2938	3218	3499	3780	4061	4342	4622		6-169
47	4903	5184	5465	5745	6026	6307	6587	6868	7148	7429		7-197
48	7710	7990	8271	8551	8832	9112	9393	9673	9953	0234	280	8-225
49	190.0514	0795	1075	1355	1636	1916	2196	2476	2757	3037		9-253
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 15500. L. 190

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
1550	190	3317	3597	3877	4157	4438	4718	4998	5278	5558	5838	280	279
51		6118	6398	6678	6958	7238	7518	7798	8078	8357	8637		1-28
52		8917	9197	9477	9757	0036	0316	0596	0876	1155	1435		2-56
53	191	1715	1994	2274	2553	2833	3113	3392	3672	3951	4231		3-84
54		4510	4790	5069	5348	5628	5907	6187	6466	6745	7025	279	4-112
55		7304	7583	7862	8142	8421	8700	8979	9259	9538	9817		5-139
56	192	0096	0375	0654	0933	1212	1491	1770	2049	2328	2607		6-167
57		2886	3165	3444	3723	4002	4281	4559	4838	5117	5396		7-195
58		5675	5953	6232	6511	6789	7068	7347	7625	7904	8183		8-223
59		8461	8740	9018	9297	9575	9854	0132	0411	0689	0968	278	9-251
1560	193	1246	1524	1803	2081	2359	2638	2916	3194	3473	3751		278
61		4029	4307	4585	4864	5142	5420	5698	5976	6254	6532		1-28
62		6810	7088	7366	7644	7922	8200	8478	8756	9034	9312		2-56
63		9590	9868	0145	0423	0701	0979	1257	1534	1812	2090		3-83
64	194	2367	2645	2923	3200	3478	3756	4033	4311	4588	4866		4-111
65		5143	5421	5698	5976	6253	6531	6808	7086	7363	7640	277	5-139
66		7918	8195	8472	8749	9027	9304	9581	9858	0136	0413		6-167
67	195	0690	0967	1244	1521	1798	2075	2353	2630	2907	3184		7-195
68		3461	3738	4014	4291	4568	4845	5122	5399	5676	5953		8-222
69		6229	6506	6783	7060	7336	7613	7890	8167	8443	8720		9-250
1570		8997	9273	9550	9825	0103	0379	0656	0932	1209	1485		276
71	196	1762	2038	2315	2591	2867	3144	3420	3697	3973	4249	276	1-28
72		4525	4802	5078	5354	5630	5907	6183	6459	6735	7011		2-55
73		7287	7563	7839	8115	8391	8667	8943	9219	9495	9771		3-83
74	197	0047	0323	0599	0875	1151	1427	1702	1978	2254	2530		4-110
75		2806	3081	3357	3633	3908	4184	4460	4735	5011	5287		5-138
76		5562	5838	6113	6389	6664	6940	7215	7491	7766	8042	275	6-166
77		8317	8592	8868	9143	9418	9694	9969	0244	0520	0795		7-193
78	198	1070	1345	1620	1896	2171	2446	2721	2996	3271	3546		8-221
79		3821	4096	4371	4646	4921	5196	5471	5746	6021	6296		9-248
1580		6571	6846	7121	7395	7670	7945	8220	8495	8769	9044		274
81		9319	9593	9868	0143	0417	0692	0967	1241	1516	1790		1-27
82	199	2065	2339	2614	2888	3163	3437	3712	3986	4260	4535	274	2-55
83		4809	5083	5358	5632	5906	6181	6455	6729	7003	7278		3-82
84		7552	7826	8100	8374	8648	8922	9197	9471	9745	0019		4-110
85	200	0293	0567	0841	1115	1389	1662	1936	2210	2484	2758		5-137
86		3032	3306	3579	3853	4127	4401	4674	4948	5222	5496		6-164
87		5769	6043	6317	6590	6864	7137	7411	7684	7958	8231		7-192
88		8505	8778	9052	9325	9599	9872	0146	0419	0692	0966	273	8-219
89	201	1239	1512	1786	2059	2332	2605	2879	3152	3425	3698		9-247
1590		3971	4244	4517	4791	5064	5337	5610	5883	6156	6429		272
91		6702	6975	7248	7521	7794	8066	8339	8612	8885	9158		1-27
92		9431	9703	9976	0249	0522	0794	1067	1340	1612	1885		2-54
93	202	2158	2430	2703	2976	3248	3521	3793	4066	4338	4611		3-82
94		4883	5156	5428	5700	5973	6245	6518	6790	7062	7335	272	4-109
95		7607	7879	8151	8424	8696	8968	9240	9512	9785	0057		5-136
96	203	0329	0601	0873	1145	1417	1689	1961	2233	2505	2777		6-163
97		3049	3321	3593	3865	4137	4409	4681	4952	5224	5496		7-190
98		5768	6040	6311	6583	6855	7126	7398	7670	7941	8213		8-218
99		8485	8756	9028	9299	9571	9842	0114	0385	0657	0928		9-245
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.	

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
1600	204.	1200	1471	1743	2014	2285	2557	2828	3099	3371	3642	271	271
01		3913	4185	4456	4727	4998	5269	5541	5812	6083	6354		1-27
02		6625	6896	7167	7438	7709	7980	8251	8522	8793	9064		2-54
03		9335	9606	9877	10148	10419	10690	10960	11231	11502	11773		3-81
04	205.	2044	2314	2585	2856	3127	3397	3668	3939	4209	4480		4-108
05		4750	5021	5292	5562	5833	6103	6374	6644	6915	7185		5-135
06		7455	7726	7996	8267	8537	8807	9078	9348	9618	9889	270	6-163
07	206.	0159	0429	0699	0969	1240	1510	1780	2050	2320	2590		7-190
08		2860	3131	3401	3671	3941	4211	4481	4751	5021	5291		8-217
09		5560	5830	6100	6370	6640	6910	7180	7449	7719	7989		9-244
1610		8259	8529	8798	9068	9338	9607	9877	10147	10416	10686		269
11	207.	0955	1225	1495	1764	2034	2303	2573	2843	3112	3381	269	1-27
12		3650	3920	4189	4459	4728	4997	5267	5536	5805	6074		2-54
13		6344	6613	6882	7151	7421	7690	7959	8228	8497	8766		3-81
14		9035	9304	9573	9842	10111	10380	10649	10918	11187	11456		4-108
15	208.	1725	1994	2263	2532	2801	3070	3338	3607	3876	4145		5-134
16		4414	4682	4951	5220	5488	5757	6026	6294	6563	6832		6-161
17		7100	7369	7637	7906	8174	8443	8711	8980	9248	9517	268	7-188
18		9785	10054	10322	10590	10859	11127	11395	11664	11932	12200		8-215
19	209.	2468	2737	3005	3273	3541	3810	4078	4346	4614	4882		9-242
1620		5150	5418	5686	5954	6222	6490	6758	7026	7294	7562		267
21		7830	8098	8366	8634	8902	9170	9437	9705	9973	10241		1-27
22	210.	0508	0776	1044	1312	1579	1847	2115	2382	2650	2918		2-53
23		3185	3453	3720	3988	4255	4523	4790	5058	5325	5593		3-80
24		5860	6128	6395	6662	6930	7197	7464	7732	7999	8266	267	4-107
25		8534	8801	9068	9335	9603	9870	10137	10404	10671	10938		5-133
26	211.	1205	1472	1740	2007	2274	2541	2808	3075	3342	3609		6-160
27		3876	4142	4409	4676	4943	5210	5477	5744	6010	6277		7-187
28		6544	6811	7078	7344	7611	7878	8144	8411	8678	8944		8-214
29		9211	9477	9744	10011	10277	10544	10810	11077	11343	11610		9-240
1630	212.	1876	2142	2409	2675	2942	3208	3474	3741	4007	4273	266	266
31		4540	4805	5072	5338	5605	5871	6137	6403	6669	6935		1-27
32		7202	7468	7734	8000	8266	8532	8798	9064	9330	9596		2-53
33		9862	10128	10394	10660	10926	11191	11457	11723	11989	12255		3-80
34	213.	2521	2786	3052	3318	3584	3849	4115	4381	4646	4912		4-106
35		5178	5443	5709	5974	6240	6505	6771	7037	7302	7568		5-133
36		7833	8098	8364	8629	8895	9160	9425	9691	9956	10221	265	6-160
37	214.	0487	0752	1017	1283	1548	1813	2078	2343	2609	2874		7-186
38		3139	3404	3669	3934	4199	4464	4730	4995	5260	5525		8-213
39		5790	6055	6319	6584	6849	7114	7379	7644	7909	8174		9-239
1640		8438	8703	8968	9233	9498	9762	10027	10292	10556	10821		264
41	215.	1086	1350	1615	1880	2144	2409	2673	2938	3203	3467		1-26
42		3732	3996	4260	4525	4789	5054	5318	5583	5847	6111	264	2-53
43		6376	6640	6904	7169	7433	7697	7961	8225	8490	8754		3-79
44		9018	9282	9546	9811	10075	10339	10603	10867	11131	11395		4-106
45	216.	1659	1923	2187	2451	2715	2979	3243	3507	3771	4034		5-132
46		4298	4562	4826	5090	5354	5617	5881	6145	6409	6672		6-158
47		6936	7200	7463	7727	7991	8254	8518	8781	9045	9309		7-185
48		9572	9836	10099	10363	10626	10890	11153	11416	11680	11943	263	8-211
49	217.	2207	2470	2733	2997	3260	3523	3786	4050	4313	4576		9-238
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.	

to 101000.

N. 16500. L. 217

Num	O	I	2	3	4	5	6	7	8	9	D	Pts.
1650	217.4839	5103	5366	5629	5892	6155	6418	6682	6945	7208	263	262
51	7471	7734	7997	8260	8523	8786	9049	9312	9575	9838		1-26
52	218.0100	0363	0626	0889	1152	1415	1677	1940	2203	2466		2-52
53	2729	2991	3254	3517	3779	4042	4305	4567	4830	5092		3-79
54	5355	5618	5880	6143	6405	6668	6930	7193	7455	7718	262	4-105
55	7980	8242	8505	8767	9030	9292	9554	9816	0079	0341		5-131
56	219.0603	0866	1128	1390	1652	1914	2177	2439	2701	2963		6-157
57	3225	3487	3749	4011	4273	4535	4797	5059	5321	5583		7-183
58	5845	6107	6369	6631	6893	7155	7417	7678	7940	8202		8-210
59	8464	8726	8987	9249	9511	9773	0034	0296	0558	0819		9-236
1660	220.1081	1342	1604	1866	2127	2389	2650	2912	3173	3435		261
61	3696	3958	4219	4481	4742	5003	5265	5526	5788	6049	261	1-26
62	6310	6571	6833	7094	7355	7617	7878	8139	8400	8661		2-52
63	8922	9184	9445	9706	9967	0228	0489	0750	1011	1272		3-78
64	221.1533	1794	2055	2316	2577	2838	3099	3360	3621	3882		4-104
65	4142	4403	4664	4925	5186	5446	5707	5968	6229	6489		5-130
66	6750	7011	7271	7532	7793	8053	8314	8574	8835	9095		6-157
67	9356	9617	9877	0138	0398	0658	0919	1179	1440	1700	260	7-183
68	222.1960	2221	2481	2741	3002	3262	3522	3783	4043	4303		8-209
69	4563	4824	5084	5344	5604	5864	6124	6384	6645	6905		9-235
1670	7165	7425	7685	7945	8205	8465	8725	8985	9245	9505		259
71	9764	0024	0284	0544	0804	1064	1324	1583	1843	2103		1-26
72	223.2363	2622	2882	3142	3402	3661	3921	4181	4440	4700		2-52
73	4959	5219	5479	5738	5998	6257	6517	6776	7036	7295		3-78
74	7555	7814	8073	8333	8592	8852	9111	9370	9630	9889	259	4-104
75	224.0148	0407	0667	0926	1185	1444	1704	1963	2222	2481		5-129
76	2740	2999	3258	3517	3777	4036	4295	4554	4813	5072		6-155
77	5331	5590	5849	6107	6366	6625	6884	7143	7402	7661		7-181
78	7920	8178	8437	8696	8955	9213	9472	9731	9990	0248		8-207
79	225.0507	0766	1024	1283	1541	1800	2059	2317	2576	2834		9-233
1680	3093	3351	3610	3868	4127	4385	4644	4902	5160	5419	258	258
81	5677	5935	6194	6452	6710	6969	7227	7485	7743	8002		1-26
82	8260	8518	8776	9034	9293	9551	9809	0067	0325	0583		2-52
83	226.0841	1099	1357	1615	1873	2131	2389	2647	2905	3163		3-77
84	3421	3679	3937	4194	4452	4710	4968	5226	5484	5741		4-103
85	5999	6257	6515	6772	7030	7288	7545	7803	8060	8318		5-129
86	8576	8833	9091	9348	9606	9863	0121	0378	0636	0893		6-155
87	227.1151	1408	1666	1923	2180	2438	2695	2953	3210	3467	257	7-181
88	3724	3982	4239	4496	4753	5011	5268	5525	5782	6039		8-206
89	6296	6554	6811	7068	7325	7582	7839	8096	8353	8610		9-232
1690	8867	9124	9381	9638	9895	0152	0409	0666	0922	1179		256
91	228.1436	1693	1950	2206	2463	2720	2977	3233	3490	3747		1-26
92	4004	4260	4517	4774	5030	5287	5543	5800	6057	6313		2-51
93	6570	6826	7083	7339	7596	7852	8108	8365	8621	8878	256	3-77
94	9134	9390	9647	9903	0159	0416	0672	0928	1185	1441		4-102
95	229.1697	1953	2209	2465	2722	2978	3234	3490	3746	4002		5-128
96	4258	4515	4771	5027	5283	5539	5795	6051	6307	6562		6-154
97	6818	7074	7330	7586	7842	8098	8354	8609	8865	9121		7-179
98	9377	9633	9888	0144	0400	0656	0911	1167	1423	1678		8-205
99	230.1934	2189	2445	2701	2956	3212	3467	3723	3978	4234		9-230
Num	O	I	2	3	4	5	6	7	8	9	D	Pro.

N. 17000. L. 230

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
1700	230.4489	4745	5000	5256	5511	5766	6022	6277	6532	6788	255	255
01	7043	7298	7554	7809	8064	8320	8575	8830	9085	9340		1-25
02	9596	9851	10106	10361	10616	10871	11126	11381	11636	11891		2-51
03	231.2146	2401	2656	2911	3166	3421	3676	3931	4186	4441		3-76
04	4696	4951	5206	5460	5715	5970	6225	6480	6734	6989		4-102
05	7244	7499	7753	8008	8263	8517	8772	9026	9281	9536		5-127
06	9790	10045	10299	10554	10808	11063	11317	11572	11826	12081	254	6-153
07	232.2335	2590	2844	3098	3353	3607	3861	4116	4370	4624		7-178
08	4879	5133	5387	5641	5896	6150	6404	6658	6912	7166		8-204
09	7421	7675	7929	8183	8437	8691	8945	9199	9453	9707		9-229
1710	9961	10215	10469	10723	10977	11231	11485	11739	11992	12246		253
11	233.2500	2754	3008	3262	3515	3769	4023	4277	4530	4784		1-25
12	5038	5291	5545	5799	6052	6306	6559	6813	7067	7320		2-51
13	7574	7827	8081	8334	8588	8841	9095	9348	9601	9855	253	3-76
14	234.0108	0362	0615	0868	1122	1375	1628	1881	2135	2388		4-101
15	2641	2894	3148	3401	3654	3907	4160	4414	4667	4920		5-126
16	5173	5426	5679	5932	6185	6438	6691	6944	7197	7450		6-152
17	7703	7956	8209	8462	8715	8967	9220	9473	9726	9979		7-177
18	235.0232	0484	0737	0990	1243	1495	1748	2001	2253	2506		8-202
19	2759	3011	3264	3517	3769	4022	4274	4527	4779	5032		9-228
1720	5284	5537	5789	6042	6294	6547	6799	7052	7304	7556	252	252
21	7809	8061	8313	8566	8818	9070	9323	9575	9827	10079		1-25
22	236.0331	0584	0836	1088	1340	1592	1844	2097	2349	2601		2-50
23	2853	3105	3357	3609	3861	4113	4365	4617	4869	5121		3-76
24	5373	5625	5876	6128	6380	6632	6884	7136	7387	7639		4-101
25	7891	8143	8394	8646	8898	9150	9401	9653	9905	10156		5-126
26	237.0408	0660	0911	1163	1414	1666	1917	2169	2420	2672		6-151
27	2923	3175	3426	3678	3929	4181	4432	4683	4935	5186	251	7-176
28	5437	5689	5940	6191	6443	6694	6945	7196	7448	7699		8-202
29	7950	8201	8452	8703	8955	9206	9457	9708	9959	10210		9-227
1730	238.0461	0712	0963	1214	1465	1716	1967	2218	2469	2720		250
31	2971	3222	3472	3723	3974	4225	4476	4727	4977	5228		1-25
32	5479	5730	5980	6231	6482	6732	6983	7234	7484	7735		2-50
33	7986	8236	8487	8737	8988	9238	9489	9739	9990	10240		3-75
34	239.0491	0741	0992	1242	1493	1743	1993	2244	2494	2744	250	4-100
35	2995	3245	3495	3746	3996	4246	4496	4747	4997	5247		4-125
36	5497	5747	5998	6248	6498	6748	6998	7248	7498	7748		6-150
37	7998	8248	8498	8748	8998	9248	9498	9748	9998	10248		7-175
38	240.0498	0748	0997	1247	1497	1747	1997	2247	2496	2746		8-200
39	2996	3246	3495	3745	3995	4244	4494	4744	4993	5243		9-225
1740	5432	5742	5992	6241	6491	6740	6990	7239	7489	7738		249
41	7988	8237	8487	8736	8985	9235	9484	9734	9983	10232	249	1-25
42	241.0482	0731	0980	1229	1479	1728	1977	2226	2476	2725		2-50
43	2974	3223	3472	3721	3970	4220	4469	4718	4967	5216		3-75
44	5465	5714	5963	6212	6461	6710	6959	7208	7457	7705		4-100
45	7954	8203	8452	8701	8950	9199	9447	9696	9945	10194		5-124
46	242.0442	0691	0940	1189	1437	1686	1935	2183	2432	2680		6-149
47	2929	3178	3426	3675	3923	4172	4420	4669	4917	5166		7-174
48	5414	5663	5911	6160	6408	6656	6905	7153	7401	7650	148	8-199
49	7898	8146	8395	8643	8891	9139	9388	9636	9884	10132		9-224
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 17500. L. 243

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1750	243.0380	0629	0877	1125	1373	1621	1869	2117	2365	2613	248	247
51	2861	3109	3357	3605	3853	4101	4349	4597	4845	5093		1-25
52	5341	5589	5837	6085	6332	6580	6828	7076	7324	7571		2-49
53	7819	8067	8315	8562	8810	9058	9305	9553	9801	0048		3-74
54	244.0296	0543	0791	1039	1286	1534	1781	2029	2276	2524		4-99
55	2771	3019	3266	3514	3761	4008	4256	4503	4750	4998	247	5-123
56	5245	5492	5740	5987	6234	6482	6729	6976	7223	7470		6-148
57	7718	7965	8212	8459	8706	8953	9200	9448	9695	9942		7-173
58	245.0189	0436	0683	0930	1177	1424	1671	1918	2165	2411		8-198
59	2658	2905	3152	3399	3646	3893	4140	4386	4633	4880		9-222
1760	5127	5373	5620	5867	6114	6360	6607	6854	7100	7347		246
61	7594	7840	8087	8333	8580	8826	9073	9320	9566	9813		1-25
62	246.0059	0306	0552	0798	1045	1291	1538	1784	2030	2277	246	2-49
63	2523	2769	3016	3262	3508	3755	4001	4247	4493	4740		3-74
64	4986	5232	5478	5724	5970	6217	6463	6709	6955	7201		4-98
65	7447	7693	7939	8185	8431	8677	8923	9169	9415	9661		5-123
66	9907	0153	0399	0645	0891	1136	1382	1628	1874	2120		6-148
67	247.2365	2611	2857	3103	3349	3594	3840	4086	4331	4577		7-172
68	4823	5068	5314	5559	5805	6051	6296	6542	6787	7033		8-197
69	7278	7524	7769	8015	8260	8506	8751	8997	9242	9487	245	9-221
1770	9733	9978	0223	0469	0714	0959	1205	1450	1695	1940		245
71	248.2186	2431	2676	2921	3166	3412	3657	3902	4147	4392		1-24
72	4637	4882	5127	5372	5617	5862	6107	6352	6597	6842		2-49
73	7087	7332	7577	7822	8067	8312	8557	8802	9047	9291		3-73
74	9536	9781	0026	0271	0515	0760	1005	1249	1494	1739		4-98
75	249.1984	2228	2473	2718	2962	3207	3451	3696	3941	4185		5-122
76	4430	4674	4919	5163	5408	5652	5897	6141	6385	6630	244	6-147
77	6874	7119	7363	7607	7852	8096	8340	8585	8829	9073		7-171
78	9318	9562	9806	0050	0294	0539	0783	1027	1271	1515		8-196
79	250.1759	2004	2248	2492	2736	2980	3224	3468	3712	3956		9-220
1780	4200	4444	4688	4932	5176	5420	5664	5908	6151	6395		243
81	6639	6883	7127	7371	7614	7858	8102	8346	8590	8833		1-24
82	9077	9321	9564	9808	0052	0295	0539	0783	1026	1270		2-49
83	251.1513	1757	2001	2244	2488	2731	2975	3218	3462	3705		3-73
84	3949	4192	4435	4679	4922	5166	5409	5652	5896	6139	243	4-97
85	6382	6625	6869	7112	7355	7599	7842	8085	8328	8571		5-121
86	8815	9058	9301	9544	9787	0030	0273	0516	0759	1002		6-146
87	252.1246	1489	1732	1975	2218	2461	2703	2946	3189	3432		7-170
88	3675	3918	4161	4404	4647	4889	5132	5375	5618	5861		8-194
89	6103	6346	6589	6832	7074	7317	7560	7802	8045	8288		9-219
1790	8530	8773	9016	9258	9501	9743	9986	0228	0471	0713		242
91	253.0956	1198	1441	1683	1926	2168	2411	2653	2895	3138	242	1-24
92	3380	3622	3865	4107	4349	4592	4834	5076	5318	5561		2-48
93	5803	6045	6287	6529	6772	7014	7256	7498	7740	7982		3-73
94	8224	8466	8709	8951	9193	9435	9677	9919	0161	0403		4-97
95	254.0645	0886	1128	1370	1612	1854	2096	2338	2580	2822		5-121
96	3063	3305	3547	3789	4030	4272	4514	4756	4997	5239		6-145
97	5481	5722	5964	6206	6447	6689	6931	7172	7414	7655		7-169
98	7897	8138	8380	8621	8863	9104	9345	9587	9829	0070	241	8-194
99	255.0312	0553	0794	1035	1277	1519	1760	2001	2242	2484		9-218
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 18000. L. 255.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1800	255.272	2366	3208	3449	3690	3931	4172	4414	4655	4896	241	241
01	5137	5378	5619	5860	6102	6343	6584	6825	7066	7307	1-24	
02	7548	7789	8030	8271	8512	8753	8994	9235	9475	9716	2-48	
03	9957	0198	0439	0680	0921	1161	1402	1643	1884	2125	3-72	
04	256.236	2606	2847	3087	3328	3569	3810	4050	4291	4531	4-96	
05	4772	5013	5253	5494	5734	5975	6215	6456	6696	6937	5-120	
06	7177	7418	7658	7899	8139	8380	8620	8860	9101	9341	240	6-145
07	9582	9822	0062	0302	0543	0783	1023	1264	1504	1744	7-169	
08	257.1984	2224	2465	2705	2945	3185	3425	3665	3905	4146	8-193	
09	4386	4626	4866	5106	5346	5586	5826	6066	6306	6546	9-217	
1810	6786	7026	7266	7506	7745	7985	8225	8465	8705	8945		239
11	9184	9424	9664	9904	0144	0384	0623	0863	1103	1342	1-24	
12	258.1582	1822	2061	2301	2541	2780	3020	3259	3499	3738	2-48	
13	3978	4218	4457	4697	4936	5176	5415	5655	5894	6133	239	3-72
14	6373	6612	6852	7091	7330	7570	7809	8048	8288	8527	4-96	
15	8766	9006	9245	9484	9723	9963	0202	0441	0680	0919	5-119	
16	259.1158	1398	1637	1876	2115	2354	2593	2832	3071	3310	6-143	
17	3549	3788	4027	4266	4505	4744	4983	5222	5461	5700	7-167	
18	5939	6178	6417	6655	6894	7133	7372	7611	7849	8088	8-191	
19	8327	8566	8804	9043	9282	9521	9759	9998	0237	0475	9-215	
1820	260.0714	0952	1191	1430	1668	1907	2145	2384	2622	2861		238
21	3099	3338	3576	3815	4053	4292	4530	4769	5007	5245	238	1-24
22	5484	5722	5960	6199	6437	6675	6914	7152	7390	7628	2-48	
23	7867	8105	8343	8581	8820	9058	9296	9534	9772	0010	3-71	
24	261.0248	0486	0725	0963	1201	1439	1677	1915	2153	2391	4-95	
25	2629	2867	3105	3343	3580	3818	4056	4294	4532	4770	5-119	
26	5008	5246	5483	5721	5959	6197	6435	6672	6910	7148	6-143	
27	7385	7623	7861	8099	8336	8574	8811	9049	9287	9524	7-167	
28	9762	9999	0237	0475	0712	0950	1187	1425	1662	1900	8-190	
29	262.2137	2374	2612	2849	3087	3324	3562	3799	4036	4274	237	9-214
1830	4511	4748	4986	5223	5460	5697	5935	6172	6409	6646		237
31	6883	7121	7358	7595	7832	8069	8306	8543	8781	9018	1-24	
32	9255	9492	9729	9966	0203	0440	0677	0914	1151	1388	2-47	
33	263.1625	1862	2098	2335	2572	2809	3046	3283	3520	3757	3-71	
34	3993	4230	4467	4704	4940	5177	5414	5651	5887	6124	4-95	
35	6361	6597	6834	7071	7307	7544	7780	8017	8254	8490	5-118	
36	8727	8963	9200	9436	9673	9909	0146	0382	0619	0855	236	6-142
37	264.1092	1328	1564	1801	2037	2273	2510	2746	2982	3219	7-166	
38	3455	3691	3928	4164	4400	4636	4873	5109	5345	5581	8-190	
39	5817	6053	6290	6526	6762	6998	7234	7470	7706	7942	9-213	
1840	8178	8414	8650	8886	9122	9358	9594	9830	0066	0302		235
41	265.0538	0774	1010	1246	1481	1717	1953	2189	2425	2660	1-23	
42	2896	3132	3368	3604	3839	4075	4311	4546	4782	5018	2-47	
43	5253	5489	5725	5960	6196	6431	6667	6903	7138	7374	3-70	
44	7609	7845	8080	8316	8551	8787	9022	9257	9493	9728	235	4-94
45	9964	0199	0434	0670	0905	1140	1376	1611	1846	2082	5-117	
46	266.2317	2552	2787	3023	3258	3493	3728	3963	4199	4434	6-141	
47	4669	4904	5139	5374	5609	5844	6080	6315	6550	6785	7-164	
48	7020	7255	7490	7725	7960	8195	8429	8664	8899	9134	8-188	
49	9369	9604	9839	0074	0309	0543	0778	1013	1248	1483	9-211	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 18500. L. 267

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
1850	267	1717	1952	2187	2421	2656	2891	3126	3360	3595	3830	235	234
51		4064	4299	4533	4768	5003	5237	5472	5706	5941	6175		1-23
52		6410	6644	6879	7113	7348	7582	7817	8051	8285	8520	234	2-47
53		8754	8989	9223	9457	9692	9926	0160	0394	0629	0863		3-70
54	268	1097	1332	1566	1800	2034	2268	2503	2737	2971	3205		4-94
55		3439	3673	3907	4141	4376	4610	4844	5078	5312	5546		5-117
56		5780	6014	6248	6482	6716	6950	7183	7417	7651	7885		6-140
57		8119	8353	8587	8821	9054	9288	9522	9756	9990	0223		7-164
58	269	0457	0691	0925	1158	1392	1626	1859	2093	2327	2560		8-187
59		2794	3028	3261	3495	3728	3962	4195	4429	4662	4896		9-211
1860		5129	5363	5596	5830	6063	6297	6530	6764	6997	7230	233	233
61		7464	7697	7930	8164	8397	8630	8864	9097	9330	9564		1-23
62		9797	0030	0263	0496	0730	0963	1196	1429	1662	1895		2-47
63	270	2129	2362	2595	2828	3061	3294	3527	3760	3993	4226		3-70
64		4459	4692	4925	5158	5391	5624	5857	6090	6323	6555		4-93
65		6788	7021	7254	7487	7720	7953	8186	8418	8651	8884		5-116
66		9116	9349	9582	9815	0047	0280	0513	0745	0978	1211		6-140
67	271	1443	1676	1908	2141	2374	2606	2839	3071	3304	3536		7-163
68		3769	4001	4234	4466	4699	4931	5163	5396	5628	5861	232	8-186
69		6093	6325	6558	6790	7022	7255	7487	7719	7952	8184		9-210
1870		8418	8648	8881	9113	9345	9577	9809	0041	0274	0506		232
71	272	0738	0970	1202	1434	1666	1898	2130	2362	2594	2826		1-23
72		3058	3290	3523	3754	3986	4218	4450	4682	4914	5146		2-46
73		5378	5610	5841	6073	6305	6537	6769	7001	7232	7464		3-70
74		7696	7928	8159	8391	8623	8854	9086	9318	9549	9781		4-93
75	273	0013	0244	0476	0708	0939	1171	1402	1634	1865	2097		5-116
76		2328	2560	2791	3023	3254	3486	3717	3949	4180	4411	231	6-139
77		4643	4874	5105	5337	5568	5799	6031	6262	6493	6725		7-162
78		6956	7187	7418	7650	7881	8112	8343	8574	8806	9037		8-186
79		9268	9499	9730	9961	0192	0423	0654	0885	1116	1347		9-209
1880	274	1576	1809	2040	2271	2502	2733	2964	3195	3426	3657		230
81		3888	4119	4350	4581	4811	5042	5273	5504	5735	5965		1-23
82		6196	6427	6658	6888	7119	7350	7581	7811	8042	8273		2-46
83		8503	8734	8964	9194	9426	9656	9887	0117	0348	0578		3-69
84	275	0809	1039	1270	1500	1731	1961	2192	2422	2653	2883		4-92
85		3114	3344	3574	3805	4035	4265	4496	4726	4956	5187	230	5-115
86		5417	5647	5877	6108	6338	6568	6798	7028	7259	7489		6-138
87		7719	7949	8179	8409	8640	8870	9100	9330	9560	9790		7-161
88	276	0020	0250	0480	0710	0940	1170	1400	1630	1860	2090		8-184
89		2320	2549	2779	3009	3239	3469	3699	3929	4158	4388		9-207
1890		4618	4848	5078	5307	5537	5767	5997	6226	6456	6686		229
91		6915	7145	7375	7604	7834	8063	8293	8523	8752	8982		1-23
92		9211	9441	9670	9900	0129	0359	0588	0818	1047	1277	229	2-46
93	277	1506	1736	1965	2194	2424	2653	2882	3112	3341	3570		3-69
94		3800	4029	4258	4488	4717	4946	5175	5405	5634	5863		4-92
95		6092	6321	6550	6780	7009	7238	7467	7696	7925	8154		5-114
96		8383	8612	8841	9070	9299	9528	9757	9986	0215	0444		6-137
97	278	0673	0902	1131	1360	1589	1818	2047	2276	2504	2733		7-160
98		2962	3191	3420	3648	3877	4106	4335	4564	4792	5021		8-183
99		5250	5478	5707	5936	6164	6393	6622	6850	7079	7307		9-206
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.	

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1900	278.7536	7765	7993	8222	8450	8679	8907	9136	9364	9593	229	228
01	9821	0050	0278	0506	0735	0963	1192	1420	1648	1877	228	1-23
02	279.2105	2333	2562	2790	3018	3247	3475	3703	3931	4160		2-46
03	4388	4616	4844	5072	5301	5529	5757	5985	6213	6441		3-68
04	6669	6898	7126	7354	7582	7810	8038	8266	8494	8722		4-91
05	8950	9178	9406	9634	9862	0090	0317	0545	0773	1001		5-114
06	280.1229	1457	1685	1912	2140	2368	2596	2824	3051	3279		6-137
07	3507	3735	3962	4190	4418	4645	4873	5101	5328	5556		7-160
08	5784	6011	6239	6467	6694	6922	7149	7377	7604	7832		8-182
09	8059	8287	8514	8742	8969	9197	9424	9651	9879	0106	227	9-205
1910	281.0334	0561	0788	1016	1243	1470	1698	1925	2152	2380		227
11	2607	2834	3061	3289	3516	3743	3970	4197	4425	4652		1-23
12	4879	5106	5333	5560	5787	6014	6242	6469	6696	6923		2-45
13	7150	7377	7604	7831	8058	8285	8512	8739	8966	9192		3-68
14	9419	9646	9873	0100	0327	0554	0781	1007	1234	1461		4-91
15	282.1688	1915	2141	2368	2595	2822	3048	3275	3502	3728		5-113
16	3955	4182	4408	4635	4862	5088	5315	5541	5768	5995		6-136
17	6221	6448	6674	6901	7127	7354	7580	7807	8033	8260	226	7-159
18	8486	8712	8939	9165	9392	9618	9844	0071	0297	0523		8-182
19	283.0750	0976	1202	1429	1655	1881	2107	2334	2560	2786		9-204
1920	3012	3238	3465	3691	3917	4143	4369	4595	4821	5048		226
21	5274	5500	5726	5952	6178	6404	6630	6856	7082	7308		1-23
22	7534	7760	7986	8212	8438	8663	8889	9115	9341	9567		2-45
23	9793	0019	0245	0470	0696	0922	1148	1373	1599	1825		3-68
24	284.2051	2276	2502	2728	2953	3179	3405	3630	3856	4082		4-90
25	4307	4533	4759	4984	5210	5435	5661	5886	6112	6337		5-113
26	6563	6788	7014	7239	7465	7690	7916	8141	8366	8592	225	6-136
27	8817	9043	9268	9493	9719	9944	0169	0394	0620	0845		7-158
28	285.1070	1296	1521	1746	1971	2196	2422	2647	2872	3097		8-181
29	3322	3547	3773	3998	4223	4448	4673	4898	5123	5348		9-203
1930	5573	5798	6023	6248	6473	6698	6923	7148	7373	7598		224
31	7823	8048	8273	8497	8722	8947	9172	9397	9622	9846		1-22
32	286.0071	0296	0521	0746	0970	1195	1420	1644	1869	2094		2-45
33	2319	2543	2768	2993	3217	3442	3666	3891	4115	4340		3-67
34	4565	4789	5014	5238	5463	5687	5912	6136	6361	6585	224	4-90
35	6810	7034	7259	7483	7707	7932	8156	8381	8605	8829		5-112
36	9054	9278	9502	9726	9951	0175	0399	0624	0848	1072		6-134
37	287.1296	1520	1745	1969	2193	2417	2641	2865	3090	3314		7-157
38	3538	3762	3986	4210	4434	4658	4882	5106	5330	5554		8-179
39	5778	6002	6226	6450	6674	6898	7122	7346	7570	7793		9-202
1940	8017	8241	8465	8689	8913	9136	9360	9584	9808	0032		223
41	288.0255	0479	0703	0927	1150	1374	1598	1821	2045	2269		1-22
42	2492	2716	2939	3163	3387	3610	3834	4057	4281	4504		2-45
43	4728	4952	5175	5399	5622	5845	6069	6292	6516	6739	223	3-67
44	6963	7186	7409	7633	7856	8079	8303	8526	8749	8973		4-89
45	9196	9419	9643	9866	0089	0312	0536	0759	0982	1205		5-111
46	289.1428	1652	1875	2098	2321	2544	2767	2990	3213	3436		6-134
47	3660	3883	4106	4329	4552	4775	4998	5221	5444	5667		7-156
48	5890	6112	6335	6558	6781	7004	7227	7450	7673	7896		8-178
49	8118	8341	8564	8787	9010	9232	9455	9678	9901	0123		9-201
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 19500. L. 290

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
1950	290.0346	0569	0792	1014	1237	1460	1682	1905	2127	2350	223	222
51	2573	2795	3018	3240	3463	3686	3908	4131	4353	4576	1	-22
52	4798	5021	5243	5466	5688	5910	6133	6355	6578	6800	222	2-44
53	7022	7245	7467	7690	7912	8134	8356	8579	8801	9023	3	-67
54	9246	9468	9690	9912	0035	0357	0579	0801	1023	1245	4	-89
55	291.1468	1690	1912	2134	2356	2578	2800	3022	3244	3466	5	-111
56	3689	3911	4133	4355	4577	4799	5020	5242	5464	5686	6	-133
57	5908	6130	6352	6574	6796	7018	7240	7461	7683	7905	7	-155
58	8127	8349	8570	8792	9014	9236	9458	9679	9901	0123	8	-178
59	292.0344	0566	0788	1009	1231	1453	1674	1896	2118	2339	9	-200
1960	2561	2782	3004	3225	3447	3668	3890	4111	4333	4554		221
61	4776	4997	5219	5440	5662	5883	6105	6326	6547	6769	221	1-22
62	6990	7211	7433	7654	7875	8097	8318	8539	8760	8982	2	-44
63	9203	9424	9645	9867	0088	0309	0530	0751	0973	1194	3	-66
64	293.1415	1636	1857	2078	2299	2520	2741	2962	3183	3405	4	-88
65	3626	3847	4068	4289	4510	4730	4951	5172	5393	5614	5	-110
66	5835	6056	6277	6498	6719	6940	7160	7381	7602	7823	6	-133
67	8044	8264	8485	8706	8927	9147	9368	9589	9810	0030	7	-155
68	294.0251	0472	0692	0913	1134	1354	1575	1795	2016	2237	8	-177
69	2457	2678	2898	3119	3339	3560	3780	4001	4221	4442	9	-199
1970	4662	4883	5103	5324	5544	5764	5985	6205	6426	6646	220	220
71	6866	7087	7307	7527	7748	7968	8188	8408	8629	8849	1	-22
72	9069	9289	9510	9730	9950	0170	0390	0610	0831	1051	2	-44
73	295.1271	1491	1711	1931	2151	2371	2591	2811	3031	3251	3	-66
74	3471	3691	3911	4131	4351	4571	4791	5011	5231	5451	4	-88
75	5671	5891	6111	6331	6550	6770	6990	7210	7430	7650	5	-110
76	7869	8089	8309	8529	8748	8968	9188	9408	9627	9847	6	-132
77	296.0067	0286	0506	0726	0945	1165	1385	1604	1824	2043	7	-154
78	2263	2482	2702	2922	3141	3361	3580	3800	4019	4238	8	-176
79	4458	4677	4897	5116	5336	5555	5774	5994	6213	6433	219	9-198
1980	6652	6871	7091	7310	7529	7748	7968	8187	8406	8626		219
81	8845	9064	9283	9502	9722	9941	0160	0379	0598	0817	1	-22
82	297.1037	1256	1475	1694	1913	2132	2351	2570	2789	3008	2	-44
83	3227	3446	3665	3884	4103	4322	4541	4760	4979	5198	3	-66
84	5417	5636	5854	6073	6292	6511	6730	6949	7168	7386	4	-88
85	7605	7824	8043	8261	8480	8699	8918	9136	9355	9574	5	-109
86	9792	0011	0230	0448	0667	0886	1104	1323	1542	1760	6	-131
87	298.1979	2197	2416	2634	2853	3071	3290	3508	3727	3945	7	-153
88	4164	4382	4601	4819	5038	5256	5474	5693	5911	6129	218	8-175
89	6348	6566	6785	7003	7221	7439	7658	7876	8094	8313	9	-197
1990	8531	8749	8967	9185	9404	9622	9840	0058	0276	0494		218
91	299.0713	0931	1149	1367	1585	1803	2021	2239	2457	2675	1	-22
92	2893	3111	3329	3547	3765	3983	4201	4419	4637	4855	2	-44
93	5073	5291	5509	5727	5945	6162	6380	6598	6816	7034	3	-65
94	7252	7469	7687	7905	8123	8340	8558	8776	8994	9211	4	-87
95	9429	9647	9864	0082	0300	0517	0735	0953	1170	1388	5	-109
96	300.1605	1823	2041	2258	2476	2693	2911	3128	3346	3563	6	-131
97	3781	3998	4216	4433	4650	4868	5085	5303	5520	5737	217	7-153
98	5955	6172	6390	6607	6824	7042	7259	7476	7693	7911	8	-174
99	8128	8345	8562	8780	8997	9214	9431	9648	9866	0083	9	-196
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01	2471	2688	2905	3122	3339	3556	3773	3990	4207	4424	1-22
02	4641	4858	5075	5291	5508	5725	5942	6159	6376	6593	2-43
03	6809	7026	7243	7460	7677	7893	8110	8327	8540	8760	3-65
04	8977	9194	9411	9627	9844	0061	0277	0494	0711	0927	4-87
05	302.1144	1360	1577	1794	2010	2227	2443	2660	2876	3093	5-108
06	3309	3526	3742	3959	4175	4392	4608	4825	5041	5258	6-130
07	5474	5690	5906	6123	6339	6556	6772	6988	7204	7421	7-152
08	7637	7853	8070	8286	8502	8718	8935	9151	9367	9583	8-174
09	9799	0015	0232	0448	0664	0880	1096	1312	1528	1745	9-195
2010	303.1961	2177	2393	2609	2825	3041	3257	3473	3689	3905	216
11	4121	4337	4553	4769	4984	5200	5416	5632	5848	6064	1-22
12	6280	6496	6711	6927	7143	7359	7575	7790	8006	8222	2-43
13	8438	8653	8869	9085	9301	9516	9732	9948	0163	0379	3-65
14	304.0595	0810	1026	1242	1457	1673	1888	2104	2319	2535	4-86
15	2751	2966	3182	3397	3613	3828	4043	4259	4474	4690	5-108
16	4905	5121	5336	5552	5767	5982	6198	6413	6628	6844	6-130
17	7059	7274	7490	7705	7920	8135	8351	8566	8781	8996	7-151
18	9212	9427	9642	9857	0072	0288	0503	0718	0933	1148	8-173
19	305.1363	1578	1793	2008	2224	2439	2654	2869	3084	3299	9-194
2020	3514	3729	3944	4159	4374	4589	4803	5018	5233	5448	214
21	5663	5878	6093	6308	6523	6737	6952	7167	7382	7597	1-21
22	7812	8026	8241	8456	8671	8885	9100	9315	9529	9744	2-43
23	9959	0174	0388	0603	0817	1032	1247	1461	1676	1891	3-64
24	306.2105	2320	2534	2749	2963	3178	3392	3607	3821	4036	4-86
25	4250	4465	4679	4894	5108	5322	5537	5751	5966	6180	5-107
26	6394	6609	6823	7037	7252	7466	7680	7895	8109	8323	6-128
27	8537	8752	8966	9180	9394	9609	9823	0037	0251	0465	7-150
28	307.0680	0894	1108	1322	1536	1750	1964	2178	2392	2606	8-171
29	2820	3035	3249	3463	3677	3890	4105	4319	4532	4746	9-193
2030	4960	5174	5388	5602	5816	6030	6244	6458	6672	6885	213
31	7099	7313	7527	7741	7954	8168	8382	8596	8810	9023	1-21
32	9237	9451	9664	9878	0092	0306	0519	0733	0947	1160	2-43
33	308.1374	1587	1801	2015	2228	2442	2655	2869	3082	3296	3-64
34	3509	3723	3936	4150	4363	4577	4790	5004	5217	5431	4-85
35	5644	5858	6071	6284	6498	6711	6924	7138	7351	7564	5-106
36	7778	7991	8204	8418	8631	8844	9057	9271	9484	9697	6-128
37	9910	0123	0337	0550	0763	0976	1189	1402	1616	1829	7-149
38	309.2042	2255	2468	2681	2894	3107	3320	3533	3746	3959	8-170
39	4172	4385	4598	4811	5024	5237	5450	5663	5876	6089	9-192
2040	6302	6515	6727	6940	7153	7366	7579	7792	8004	8217	212
41	8430	8643	8856	9068	9281	9494	9707	9919	0132	0345	1-21
42	310.0557	0770	0983	1195	1408	1621	1833	2046	2258	2471	2-42
43	2684	2896	3109	3321	3534	3746	3959	4171	4384	4596	3-64
44	4809	5021	5234	5446	5659	5871	6084	6296	6508	6721	4-85
45	6933	7145	7358	7570	7783	7995	8207	8419	8632	8844	5-106
46	9056	9269	9481	9693	9905	0117	0330	0542	0754	0966	6-127
47	311.1178	1391	1603	1815	2027	2239	2451	2663	2875	3087	7-148
48	3300	3512	3724	3936	4148	4360	4572	4784	4996	5208	8-170
49	5420	5632	5843	6055	6267	6479	6691	6903	7115	7327	9-191
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51		9657	9868	0080	0292	0504	0715	0927	1139	1350	1562		1-21
52	12	1774	1985	2197	2408	2620	2832	3043	3255	3466	3678		2-42
53		3889	4101	4313	4524	4735	4947	5159	5370	5581	5793	211	3-63
54		6004	6216	6427	6639	6850	7061	7273	7484	7696	7907		4-84
55		8118	8329	8541	8752	8964	9175	9386	9597	9809	0020		5-105
56	13	0231	0442	0654	0865	1076	1287	1498	1709	1921	2132		6-127
57		2343	2554	2765	2976	3187	3398	3610	3820	4032	4243		7-148
58		4454	4665	4876	5087	5298	5509	5720	5931	6142	6353		8-169
59		6563	6774	6985	7196	7407	7618	7829	8040	8251	8461		9-190
20600		8672	8883	9094	9305	9515	9726	9937	0148	0358	0569		210
61	14	0780	0991	1201	1412	1623	1833	2044	2255	2465	2676		1-21
62		2887	3097	3308	3518	3729	3939	4150	4361	4571	4782		2-42
63		4992	5203	5413	5624	5834	6045	6255	6466	6676	6887	210	3-63
64		7097	7307	7518	7728	7938	8149	8359	8569	8780	8990		4-84
65		9201	9411	9621	9831	0042	0252	0462	0672	0883	1093		5-105
66	15	1303	1513	1724	1934	2144	2354	2564	2774	2984	3195		6-126
67		3405	3615	3825	4035	4245	4455	4665	4875	5085	5295		7-147
68		5505	5715	5925	6135	6345	6555	6765	6975	7185	7395		8-168
69		7605	7815	8025	8235	8444	8654	8864	9074	9284	9494		9-189
20700		9703	9913	0123	0333	0543	0752	0962	1172	1382	1591		209
71	16	1801	2011	2220	2430	2640	2849	3059	3269	3478	3688		1-21
72		3898	4107	4317	4526	4736	4945	5155	5364	5574	5784		2-42
73		5993	6203	6412	6621	6831	7040	7250	7459	7669	7878	209	3-63
74		8088	8297	8506	8716	8925	9134	9344	9553	9762	9972		4-84
75	17	0181	0390	0600	0809	1018	1227	1437	1646	1855	2064		5-104
76		2273	2483	2692	2901	3110	3319	3528	3738	3947	4156		6-125
77		4365	4574	4783	4992	5201	5410	5619	5828	6037	6246		7-146
78		6455	6664	6873	7082	7291	7500	7709	7918	8127	8336		8-167
79		8545	8754	8963	9172	9380	9589	9798	0007	0216	0425		9-188
20800	18	0633	0842	1051	1260	1468	1677	1886	2095	2303	2512		208
81		2721	2929	3138	3347	3556	3764	3973	4181	4390	4599		1-21
82		4807	5016	5224	5433	5642	5850	6059	6267	6476	6684		2-42
83		6893	7101	7310	7518	7727	7935	8143	8352	8560	8769	208	3-62
84		8977	9186	9394	9602	9811	0019	0227	0436	0644	0852		4-83
85	19	1061	1269	1477	1685	1894	2102	2310	2518	2727	2935		5-104
86		3143	3351	3559	3768	3976	4184	4392	4600	4808	5016		6-125
87		5224	5433	5641	5849	6057	6265	6473	6681	6889	7097		7-146
88		7305	7513	7721	7929	8137	8345	8553	8761	8969	9176		8-166
89		9384	9592	9800	0008	0216	0424	0632	0839	1047	1255		9-187
20900	20	1463	1671	1878	2086	2294	2502	2709	2917	3125	3333		207
91		3540	3748	3956	4163	4371	4579	4786	4994	5202	5409		1-21
92		5617	5824	6032	6240	6447	6655	6862	7070	7277	7485		2-41
93		7692	7900	8107	8315	8522	8730	8937	9145	9352	9559	207	3-62
94		9767	9974	0182	0389	0596	0804	1011	1218	1426	1633		4-83
95	21	1840	2048	2255	2462	2669	2877	3084	3291	3498	3706		5-103
96		3913	4120	4327	4534	4742	4949	5156	5363	5570	5777		6-124
97		5984	6191	6398	6606	6813	7020	7227	7434	7641	7848		7-145
98		8055	8262	8469	8676	8883	9090	9297	9504	9711	9917		8-166
99	22	0124	0331	0538	0745	0952	1159	1366	1572	1779	1986		9-186
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2100	322.2193	2400	2607	2813	3020	3227	3434	3640	3847	4054	207	207
01	4261	4467	4674	4881	5087	5294	5501	5707	5914	6121		1-21
02	6327	6534	6740	6947	7153	7360	7567	7773	7980	8186		2-41
03	8393	8599	8806	9012	9219	9425	9632	9838	0045	0251	206	3-62
04	323.0457	0664	0870	1077	1283	1489	1696	1902	2108	2315		4-63
05	2521	2727	2934	3140	3346	3552	3759	3965	4171	4377		5-103
06	4584	4790	4996	5202	5408	5615	5821	6027	6233	6439		6-124
07	6645	6851	7058	7264	7470	7676	7882	8088	8294	8500		7-145
08	8706	8912	9118	9324	9530	9736	9942	0148	0354	0560		8-166
09	324.0766	0972	1178	1384	1589	1795	2001	2207	2413	2619		9-186
2110	2825	3030	3236	3442	3648	3854	4059	4265	4471	4677		206
11	4882	5088	5294	5499	5705	5911	6117	6322	6528	6734		1-21
12	6939	7145	7350	7556	7762	7967	8173	8378	8584	8789		2-41
13	8995	9200	9406	9612	9817	0023	0228	0433	0639	0844	205	3-62
14	325.1050	1255	1461	1666	1872	2077	2282	2488	2693	2898		4-82
15	3104	3309	3514	3720	3925	4130	4336	4541	4746	4951		5-103
16	5157	5362	5567	5772	5978	6183	6388	6593	6798	7003		6-124
17	7209	7414	7619	7824	8029	8234	8439	8644	8849	9055		7-144
18	9260	9465	9670	9875	0080	0285	0490	0695	0900	1105		8-165
19	326.1310	1515	1719	1924	2129	2334	2539	2744	2949	3154		9-185
2120	3359	3563	3768	3973	4178	4383	4588	4792	4997	5202		205
21	5407	5611	5816	6021	6226	6430	6635	6840	7044	7249		1-20
22	7454	7658	7863	8068	8272	8477	8682	8886	9091	9295		2-41
23	9500	9705	9909	0114	0318	0523	0727	0932	1136	1341		3-61
24	327.1545	1750	1954	2158	2363	2567	2772	2976	3181	3385	204	4-82
25	3589	3794	3998	4202	4407	4611	4815	5020	5224	5428		5-102
26	5533	5737	5941	6145	6350	6554	6758	6962	7167	7371		6-123
27	7675	7879	8083	8287	8492	8696	8900	9104	9308	9512		7-143
28	9716	9920	0124	0328	0533	0737	0940	1145	1349	1553		8-164
29	328.1757	1961	2165	2369	2572	2776	2980	3184	3388	3592		9-184
2130	3796	4000	4204	4408	4612	4815	5019	5223	5427	5631		204
31	5834	6038	6242	6446	6650	6853	7057	7261	7465	7668		1-20
32	7872	8076	8279	8483	8687	8890	9094	9298	9501	9705		2-41
33	9909	0112	0316	0519	0723	0926	1130	1334	1537	1741		3-61
34	329.1944	2148	2351	2555	2758	2962	3165	3369	3572	3775	203	4-82
35	3979	4182	4386	4589	4792	4996	5199	5402	5606	5809		5-102
36	6012	6216	6419	6622	6826	7029	7232	7435	7639	7842		6-122
37	8045	8248	8452	8655	8858	9061	9264	9468	9671	9874		7-143
38	330.0377	0580	0783	0986	0889	1093	1296	1499	1702	1905		8-163
39	2108	2311	2514	2717	2920	3123	3326	3529	3732	3935		9-184
2140	4138	4341	4544	4747	4949	5152	5355	5558	5761	5964		203
41	6157	6370	6572	6775	6978	7181	7384	7587	7789	7992		1-20
42	8195	8397	8600	8803	9006	9208	9411	9614	9816	0019		2-41
43	331.0222	0424	0627	0830	1032	1235	1437	1640	1843	2045		3-61
44	2248	2450	2653	2855	3058	3261	3463	3666	3868	4070		4-81
45	4273	4475	4678	4880	5083	5285	5488	5690	5892	6095	202	5-101
46	6297	6500	6702	6904	7107	7309	7511	7714	7916	8118		6-122
47	8320	8523	8725	8927	9129	9332	9534	9736	9938	0141		7-142
48	332.0343	0545	0747	0949	1151	1354	1556	1758	1960	2162		8-162
49	2364	2566	2768	2970	3172	3374	3577	3779	3981	4183		9-683
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to 101000.

N: 21500. L: 332

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51		6404	6606	6808	7010	7212	7414	7615	7817	8019	8221	1-20
52		8423	8624	8826	9028	9230	9432	9633	9835	0037	0239	2-40
53	333	0440	0642	0844	1045	1247	1449	1650	1852	2054	2255	3-61
54		2457	2659	2860	3062	3263	3465	3667	3868	4070	4271	4-81
55		4473	4674	4876	5077	5279	5480	5682	5883	6085	6286	201
56		6488	6689	6890	7092	7293	7495	7696	7897	8099	8300	5-101
57		8501	8703	8904	9105	9307	9508	9709	9911	0112	0313	6-121
58	334	0514	0716	0917	1118	1319	1521	1722	1923	2124	2325	7-141
59		2526	2728	2929	3130	3331	3532	3733	3934	4135	4336	8-162
2160		4538	4739	4940	5141	5342	5543	5744	5945	6146	6347	9-182
61		6548	6749	6950	7151	7351	7552	7753	7954	8155	8356	201
62		8557	8758	8959	9159	9360	9561	9762	9963	0164	0364	1-20
63	335	0565	0766	0967	1168	1368	1569	1770	1970	2171	2372	2-40
64		2573	2773	2974	3175	3375	3576	3777	3977	4178	4378	3-60
65		4579	4780	4980	5181	5381	5582	5782	5983	6183	6384	4-80
66		6585	6785	6986	7186	7386	7587	7787	7988	8188	8389	5-100
67		8589	8790	8990	9190	9391	9591	9791	9992	0192	0392	6-121
68	336	0593	0793	0993	1194	1394	1594	1795	1995	2195	2395	7-141
69		2595	2796	2996	3196	3396	3597	3797	3997	4197	4397	8-161
2170		4597	4797	4998	5198	5398	5598	5798	5998	6198	6398	9-181
71		6598	6798	6998	7198	7398	7598	7798	7998	8198	8398	200
72		8598	8798	8998	9198	9398	9598	9798	9998	0198	0397	1-20
73	337	0597	0797	0997	1197	1397	1596	1796	1996	2196	2396	2-40
74		2595	2795	2995	3195	3394	3594	3794	3994	4193	4393	3-60
75		4593	4792	4992	5192	5391	5591	5791	5990	6190	6389	4-80
76		6589	6788	6988	7188	7387	7587	7786	7986	8186	8385	5-100
77		8584	8784	8983	9183	9382	9582	9781	9981	0180	0379	6-120
78	338	0579	0778	0978	1177	1376	1576	1775	1974	2174	2373	7-140
79		2572	2772	2971	3170	3369	3569	3768	3967	4166	4366	8-160
2180		4565	4764	4963	5163	5362	5561	5760	5959	6158	6358	9-180
81		6557	6756	6955	7154	7353	7552	7751	7950	8149	8348	199
82		8547	8746	8946	9145	9344	9543	9742	9940	0139	0338	1-20
83	339	0537	0736	0935	1134	1333	1532	1731	1930	2129	2327	2-40
84		2525	2725	2924	3123	3322	3520	3719	3918	4117	4316	3-60
85		4514	4713	4912	5111	5309	5508	5707	5906	6104	6303	4-80
86		6502	6700	6899	7098	7296	7495	7693	7892	8091	8289	5-99
87		8488	8686	8885	9084	9282	9481	9679	9878	0076	0275	6-119
88	340	0473	0672	0870	1069	1267	1466	1664	1862	2061	2259	7-139
89		2458	2656	2854	3053	3251	3449	3649	3846	4045	4243	8-159
2190		4441	4539	4838	5036	5234	5433	5631	5829	6027	6226	9-179
91		6424	6622	6820	7018	7217	7415	7613	7811	8009	8207	198
92		8405	8604	8802	9000	9198	9396	9594	9792	9990	0188	1-20
93	341	0386	0584	0782	0980	1178	1376	1574	1772	1970	2168	2-40
94		2366	2564	2762	2960	3158	3356	3554	3752	3950	4147	3-60
95		4345	4543	4741	4939	5137	5334	5532	5730	5928	6126	4-79
96		6323	6521	6719	6917	7114	7312	7510	7707	7905	8103	5-99
97		8301	8498	8695	8894	9091	9289	9486	9684	9882	0079	6-119
98	342	0277	0474	0672	0870	1067	1265	1462	1660	1857	2055	7-139
99		2252	2450	2647	2845	3042	3240	3437	3635	3832	4029	8-158
											197	9-178
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.		
2200	342.	4227	4424	4522	4819	5016	5214	5411	5608	5806	6003	197	197	
01		6200	6398	6595	6792	6990	7187	7384	7581	7779	7976		1-20	
02		8173	8370	8568	8765	8962	9159	9356	9554	9751	9948		2-39	
03	343.	0145	0342	0539	0736	0933	1131	1328	1525	1722	1919		3-59	
04		2116	2313	2510	2707	2904	3101	3298	3495	3692	3889		4-79	
05		4086	4283	4480	4677	4874	5071	5268	5464	5661	5858		5-98	
06		6055	6252	6449	6646	6842	7039	7236	7433	7630	7827		6-118	
07		8023	8220	8417	8614	8810	9007	9204	9401	9597	9794		7-138	
08		9991	0187	0384	0581	0777	0974	1171	1367	1564	1761		8-158	
09	344.	1957	2154	2350	2547	2743	2940	3137	3333	3530	3726		9-177	
2210		3923	4119	4316	4512	4709	4905	5102	5298	5495	5691	196	196	
11		5887	6084	6280	6477	6673	6869	7066	7262	7459	7655		1-20	
12		7851	8048	8244	8440	8636	8833	9029	9225	9422	9618		2-39	
13		9814	0010	0207	0403	0599	0795	0991	1188	1384	1580		3-59	
14	345.	1776	1972	2168	2365	2561	2757	2953	3149	3345	3541		4-78	
15		3737	3933	4129	4325	4522	4718	4914	5110	5306	5502		5-98	
16		5698	5894	6090	6285	6481	6677	6873	7069	7265	7461		6-118	
17		7657	7853	8049	8245	8440	8636	8832	9028	9224	9420		7-137	
18		9615	9811	0007	0203	0399	0594	0790	0986	1182	1377		8-157	
19	346.	1573	1769	1964	2160	2356	2551	2747	2943	3138	3334		9-176	
2220		3530	3725	3921	4117	4312	4508	4703	4899	5094	5290		195	195
21		5486	5681	5877	6072	6268	6463	6659	6854	7050	7245	195	1-19	
22		7441	7636	7831	8027	8222	8418	8613	8808	9004	9199		2-39	
23		9395	9590	9785	9981	0176	0371	0567	0762	0957	1153		3-58	
24	347.	1348	1543	1738	1934	2129	2324	2519	2715	2910	3105		4-78	
25		3300	3495	3691	3885	4081	4276	4471	4666	4861	5056		5-97	
26		5252	5447	5642	5837	6032	6227	6422	6617	6812	7007		6-117	
27		7202	7397	7592	7787	7982	8177	8372	8567	8762	8957		7-136	
28		9152	9347	9542	9737	9931	0126	0321	0516	0711	0906		8-156	
29	348.	1101	1296	1490	1685	1880	2075	2270	2464	2659	2854		9-175	
2230		3049	3243	3438	3633	3828	4022	4217	4412	4606	4801		194	194
31		4996	5190	5385	5580	5774	5969	6164	6358	6553	6747		1-19	
32		6942	7136	7331	7526	7720	7915	8109	8304	8498	8693		2-38	
33		8887	9082	9276	9471	9665	9860	0054	0248	0443	0637	194	3-58	
34	349.	0832	1026	1220	1415	1609	1804	1998	2192	2387	2581		4-78	
35		2775	2970	3164	3358	3552	3747	3941	4135	4330	4524		5-97	
36		4718	4912	5106	5301	5495	5689	5883	6077	6272	6466		6-116	
37		6660	6854	7048	7242	7436	7630	7825	8019	8213	8407		7-136	
38		8601	8795	8989	9183	9377	9571	9765	9959	0153	0347		8-155	
39	350.	0541	0735	0929	1123	1317	1511	1705	1898	2092	2286		9-175	
2240		2480	2674	2868	3062	3256	3449	3643	3837	4031	4225			
41		4419	4612	4806	5000	5194	5387	5581	5775	5969	6162			
42		6356	6550	6743	6937	7131	7325	7518	7712	7905	8099			
43		8293	8486	8680	8874	9067	9261	9454	9648	9841	0035			
44	351.	0229	0422	0616	0809	1003	1196	1390	1583	1777	1970	193		
45		2163	2357	2550	2744	2937	3131	3324	3517	3711	3904			
46		4028	4221	4414	4607	4801	5004	5258	5451	5644	5837			
47		6031	6224	6417	6611	6804	6997	7190	7383	7577	7770			
48		7963	8156	8349	8543	8736	8929	9122	9315	9508	9701			
49		9895	0088	0281	0474	0667	0860	1053	1246	1439	1632			
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.		

to 101000.

N. 22500. L. 352.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
2250	352	1825	2018	2211	2404	2597	2790	2983	3176	3369	3562	193	193
51		3755	3948	4141	4334	4527	4720	4912	5105	5298	5491		1-19
52		5684	5877	6070	6262	6455	6648	6841	7034	7226	7419		2-39
53		7612	7805	7997	8190	8383	8576	8768	8961	9154	9346		3-58
54		9539	9732	9924	0117	0310	0502	0695	0888	1080	1273		4-77
55	353	1465	1658	1851	2043	2236	2428	2621	2813	3006	3198		5-96
56		3391	3583	3776	3968	4161	4353	4546	4738	4931	5123	192	6-116
57		5316	5508	5700	5893	6085	6278	6470	6662	6855	7047		7-135
58		7239	7432	7624	7816	8009	8201	8393	8586	8778	8970		8-154
59		9162	9355	9547	9739	9931	0123	0316	0508	0700	0892		9-174
2260	354	1084	1277	1469	1661	1853	2045	2237	2429	2621	2814		192
61		3006	3198	3390	3582	3774	3966	4158	4350	4542	4734		1-19
62		4926	5118	5310	5502	5694	5886	6078	6270	6462	6654		2-38
63		6846	7037	7229	7421	7613	7805	7997	8189	8381	8572		3-58
64		8764	8956	9148	9340	9531	9723	9915	0107	0299	0490		4-77
65	355	0682	0874	1066	1257	1449	1641	1832	2024	2216	2407		5-96
66		2599	2791	2982	3174	3366	3557	3749	3940	4132	4324		6-115
67		4515	4707	4898	5090	5281	5473	5664	5856	6048	6239		7-134
68		6431	6622	6813	7005	7196	7388	7579	7771	7962	8154	191	8-154
69		8345	8536	8728	8919	9111	9302	9493	9685	9876	0067		9-173
2270	356	0259	0450	0641	0832	1024	1215	1406	1598	1789	1980		191
71		2171	2363	2554	2745	2936	3127	3319	3510	3701	3892		1-19
72		4083	4274	4466	4657	4848	5039	5230	5421	5612	5803		2-38
73		5994	6185	6376	6568	6759	6950	7141	7332	7523	7714		3-57
74		7905	8096	8287	8478	8668	8859	9050	9241	9432	9623		4-76
75		9814	0005	0196	0387	0578	0768	0959	1150	1341	1532		5-95
76	357	1723	1913	2104	2295	2486	2677	2867	3058	3249	3440		6-115
77		3630	3821	4012	4202	4393	4584	4775	4965	5156	5347		7-134
78		5537	5728	5918	6109	6300	6490	6681	6872	7062	7253		8-153
79		7443	7634	7824	8015	8205	8396	8586	8777	8967	9158		9-172
2280	9348	9539	9729	9920	0110	0301	0491	0682	0872	1062	1252	190	190
81	358	1253	1443	1634	1824	2014	2205	2395	2585	2776	2966		1-19
82		3156	3347	3537	3727	3918	4108	4298	4488	4679	4869		2-38
83		5059	5249	5440	5630	5820	6010	6200	6391	6581	6771		3-57
84		6961	7151	7341	7531	7722	7912	8102	8292	8482	8672		4-76
85		8862	9052	9242	9432	9622	9812	0002	0192	0382	0572		5-95
86	359	0762	0952	1142	1332	1522	1712	1902	2092	2282	2472		6-114
87		2662	2852	3041	3231	3421	3611	3801	3991	4181	4370		7-133
88		4560	4750	4940	5130	5319	5509	5699	5889	6078	6268		8-152
89		6458	6648	6837	7027	7217	7406	7596	7786	7976	8165		9-171
2290	8355	8544	8734	8924	9113	9303	9493	9682	9872	0061			189
91	360	0251	0440	0630	0820	1009	1199	1388	1578	1767	1957		1-19
92		2146	2336	2525	2715	2904	3093	3283	3472	3662	3851	189	2-38
93		4041	4230	4419	4609	4798	4987	5177	5366	5555	5745		3-57
94		5934	6123	6313	6502	6691	6880	707	7259	7448	7638		4-76
95		7827	8016	8205	8395	8584	8773	8962	9151	9341	9530		5-94
96		9719	9908	0097	0286	0475	0664	0854	1043	1232	1421		6-113
97	361	1610	1799	1988	2177	2366	2555	2744	2933	3122	3311		7-132
98		3500	3689	3878	4067	4256	4445	4634	4823	5012	5201		8-151
99		5390	5579	5767	5956	6145	6334	6523	6712	6901	7090		9-170
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.	

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2300	361.7278	7467	7656	7845	8034	8222	8411	8600	8789	8977	189	189
01	9166	9355	9544	9732	9921	0110	0298	0487	0676	0864		1-19
02	362.1053	1242	1430	1619	1808	1996	2185	2374	2562	2751		2-38
03	2939	3128	3316	3505	3694	3882	4071	4259	4448	4636		3-57
04	4825	5013	5202	5390	5579	5767	5956	6144	6332	6521	188	4-76
05	6709	6898	7086	7274	7463	7651	7840	8028	8216	8405		5-94
06	8593	8781	8970	9158	9346	9535	9723	9911	0099	0288		6-113
07	363.0476	0664	0852	1041	1229	1417	1605	1793	1982	2170		7-132
08	2358	2546	2734	2922	3111	3299	3487	3675	3863	4051		8-151
09	4239	4427	4615	4804	4992	5180	5368	5556	5744	5932		9-170
2310	6120	6308	6496	6684	6872	7060	7248	7436	7624	7811		188
11	7999	8187	8375	8563	8751	8939	9127	9315	9503	9690		1-19
12	9878	0066	0254	0442	0630	0817	1005	1193	1381	1569		2-38
13	364.1756	1944	2132	2320	2507	2695	2883	3070	3258	3446		3-56
14	3633	3821	4009	4197	4384	4572	4759	4947	5135	5322		4-75
15	5510	5698	5885	6073	6260	6448	6635	6823	7010	7198		5-94
16	7386	7573	7761	7948	8136	8323	8510	8698	8885	9073	187	6-113
17	9260	9448	9635	9823	0010	0197	0385	0572	0760	0947		7-132
18	365.1134	1322	1509	1696	1884	2071	2258	2446	2633	2820		8-150
19	3007	3195	3382	3569	3756	3944	4131	4318	4505	4693		9-169
2320	4880	5067	5254	5441	5629	5816	6003	6190	6377	6564		187
21	6751	6938	7126	7313	7500	7687	7874	8061	8248	8435		1-19
22	8622	8809	8996	9183	9370	9557	9744	9931	0118	0305		2-37
23	366.0492	0679	0866	1053	1240	1427	1614	1801	1987	2174		3-56
24	2361	2548	2735	2922	3109	3295	3482	3669	3856	4043		4-75
25	4230	4416	4603	4790	4977	5163	5350	5537	5724	5910		5-93
26	6097	6284	6470	6657	6844	7031	7217	7404	7590	7777		6-112
27	7964	8150	8337	8524	8710	8897	9083	9270	9457	9643		7-131
28	9830	0016	0203	0389	0576	0762	0949	1135	1322	1508		8-150
29	367.1695	1881	2068	2254	2441	2627	2814	3000	3186	3373	186	9-168
2330	3559	3746	3932	4118	4305	4491	4677	4864	5050	5236		186
31	5423	5609	5795	5982	6168	6354	6540	6727	6913	7099		1-19
32	7285	7472	7658	7844	8030	8216	8403	8589	8775	8961		2-37
33	9147	9333	9520	9706	9892	0078	0264	0450	0636	0822		3-56
34	368.1008	1195	1381	1567	1753	1939	2125	2311	2497	2683		4-74
35	2869	3055	3241	3427	3613	3799	3985	4171	4356	4542		5-93
36	4728	4914	5100	5286	5472	5658	5844	6030	6215	6401		6-112
37	6587	6773	6959	7145	7330	7516	7702	7888	8073	8259		7-130
38	8445	8631	8817	9002	9188	9374	9559	9745	9931	0116		8-149
39	369.0302	0488	0674	0859	1045	1230	1416	1602	1787	1973		9-167
2340	2159	2344	2530	2715	2901	3086	3272	3458	3643	3829		185
41	4014	4200	4385	4571	4756	4942	5127	5313	5498	5683	185	1-18
42	5869	6054	6240	6425	6611	6796	6981	7167	7352	7537		2-37
43	7723	7908	8094	8279	8464	8650	8835	9020	9205	9391		3-55
44	9576	9761	9947	0132	0317	0502	0688	0873	1058	1243		4-74
45	370.1428	1614	1799	1984	2159	2354	2539	2725	2910	3095		5-92
46	3280	3465	3650	3835	4020	4206	4391	4576	4761	4946		6-111
47	5131	5316	5501	5686	5871	6056	6241	6426	6611	6796		7-129
48	6981	7166	7351	7536	7721	7906	8091	8275	8460	8645		8-148
49	8830	9015	9200	9385	9570	9754	9939	0124	0309	0494		9-166
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 23500. L. 371.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2350	371.0679	0863	1048	1233	1418	1602	1787	1972	2157	2342	185	
51	2526	2711	2896	3080	3265	3450	3634	3819	4004	4188		
52	4373	4558	4742	4927	5112	5296	5481	5665	5850	6035		
53	6219	6404	6588	6773	6957	7142	7327	7511	7696	7880		
54	8065	8249	8434	8618	8802	8987	9171	9356	9540	9725	184	
55	9909	0093	0278	0462	0647	0831	1015	1200	1384	1568		
56	372.1753	1937	2121	2306	2490	2674	2859	3043	3227	3412		
57	3596	3780	3964	4149	4333	4517	4701	4885	5070	5254		
58	5438	5622	5806	5990	6175	6359	6543	6727	6911	7095		
59	7279	7463	7648	7832	8016	8200	8384	8568	8752	8936		
2360	9120	9304	9488	9672	9856	0040	0224	0408	0592	0776		184
61	373.0960	1144	1328	1512	1696	1879	2063	2247	2431	2615		1-18
62	2799	2983	3167	3350	3534	3718	3902	4086	4270	4453		2-37
63	4637	4821	5005	5189	5372	5556	5740	5924	6107	6291		3-55
64	6475	6658	6842	7026	7209	7393	7577	7760	7944	8128		4-74
65	8311	8495	8679	8862	9046	9229	9413	9597	9780	9964		5-92
66	374.0147	0331	0514	0698	0882	1065	1249	1432	1616	1799		6-110
67	1983	2166	2349	2533	2716	2900	3083	3267	3450	3634	183	7-129
68	3817	4000	4184	4367	4550	4734	4917	5101	5284	5467		8-147
69	5651	5834	6017	6200	6384	6567	6750	6934	7117	7300		9-166
2370	7483	7667	7850	8033	8216	8400	8583	8766	8949	9132		183
71	9316	9499	9682	9865	0048	0231	0414	0597	0781	0964		1-18
72	375.1147	1330	1513	1696	1879	2062	2245	2428	2611	2794		2-37
73	2977	3160	3343	3526	3709	3892	4075	4258	4441	4624		3-55
74	4807	4990	5173	5356	5539	5722	5905	6087	6270	6453		4-73
75	6636	6819	7002	7185	7367	7550	7733	7916	8099	8282		5-91
76	8464	8647	8830	9013	9195	9378	9561	9744	9926	0109		6-110
77	376.0292	0474	0657	0840	1023	1205	1388	1571	1753	1936		7-128
78	2118	2301	2484	2666	2849	3032	3214	3397	3579	3762		8-146
79	3944	4127	4309	4492	4675	4857	5040	5222	5405	5587		9-165
2380	5770	5952	6135	6317	6499	6682	6864	7047	7229	7412	182	
81	7594	7776	7959	8141	8323	8506	8688	8871	9053	9235		1-18
82	9418	9600	9782	9964	0147	0329	0511	0694	0876	1058		2-36
83	377.1240	1423	1605	1787	1969	2152	2334	2516	2698	2880		3-55
84	3062	3245	3427	3609	3791	3973	4155	4337	4520	4702		4-73
85	4884	5066	5248	5430	5612	5794	5976	6158	6340	6522		5-91
86	6704	6886	7068	7250	7432	7614	7796	7978	8160	8342		6-109
87	8524	8706	8888	9070	9252	9434	9616	9798	9979	0161		7-127
88	378.0343	0525	0707	0889	1071	1252	1434	1616	1798	1980		8-146
89	2161	2343	2525	2707	2889	3070	3252	3434	3616	3797		9-164
2390	3979	4161	4342	4524	4706	4887	5069	5251	5432	5614		181
91	5796	5977	6159	6341	6522	6704	6885	7067	7249	7430		1-18
92	7612	7793	7975	8156	8338	8519	8701	8882	9064	9245		2-36
93	9427	9608	9790	9971	0153	0334	0516	0697	0879	1060	181	3-54
94	379.1241	1423	1604	1786	1967	2148	2330	2511	2692	2874		4-72
95	3055	3236	3418	3599	3780	3962	4143	4324	4506	4687		5-90
96	4868	5049	5231	5412	5593	5774	5956	6137	6318	6499		6-109
97	6680	6861	7043	7224	7405	7586	7767	7948	8130	8311		7-127
98	8492	8673	8854	9035	9216	9397	9578	9759	9940	0121		8-145
99	380.0302	0483	0664	0845	1026	1207	1388	1569	1750	1931		9-163
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 24000. L. 380.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2400	380.2112	2293	2474	2655	2836	3017	3198	3379	3560	3741	181	181
01	3922	4102	4283	4464	4645	4826	5007	5188	5368	5549		1-18
02	5730	5911	6092	6272	6453	6634	6815	6995	7176	7357		2-36
03	7538	7718	7899	8080	8261	8441	8622	8803	8983	9164		3-54
04	9345	9525	9706	9886	0067	0248	0428	0609	0790	0970		4-72
05	381.1151	1331	1512	1692	1873	2054	2234	2415	2595	2776		5-90
06	2956	3137	3317	3498	3678	3859	4039	4219	4400	4580	180	6-109
07	4761	4941	5122	5302	5482	5663	5843	6024	6204	6384		7-127
08	6565	6745	6925	7106	7286	7466	7647	7827	8007	8188		8-145
09	8368	8548	8728	8909	9089	9269	9449	9630	9810	9990		9-163
2410	382.0170	0351	0531	0711	0891	1071	1251	1432	1612	1792		180
11	1972	2152	2332	2512	2692	2873	3053	3233	3413	3593		1-18
12	3773	3953	4133	4313	4493	4673	4853	5033	5213	5393		2-36
13	5573	5753	5933	6113	6293	6473	6653	6833	7013	7193		3-54
14	7373	7552	7732	7912	8092	8272	8452	8632	8812	8991		4-72
15	9171	9351	9531	9711	9891	0070	0250	0430	0610	0789		5-90
16	383.0969	1149	1329	1508	1688	1868	2048	2227	2407	2587		6-108
17	2766	2946	3126	3305	3485	3665	3845	4024	4204	4383		7-126
18	4563	4742	4922	5102	5281	5461	5640	5820	5999	6179		8-144
19	6359	6538	6718	6897	7077	7256	7436	7615	7795	7974	179	9-162
2420	8154	8333	8512	8692	8871	9051	9230	9410	9589	9768		179
21	9948	0127	0307	0486	0665	0845	1024	1203	1383	1562		1-18
22	384.1741	1921	2100	2279	2458	2638	2817	2996	3176	3355		2-36
23	3534	3713	3893	4072	4251	4430	4609	4789	4968	5147		3-54
24	5326	5505	5684	5864	6043	6222	6401	6580	6759	6938		4-72
25	7117	7296	7475	7655	7834	8013	8192	8371	8550	8729		5-89
26	8928	9087	9266	9445	9624	9803	9982	0161	0340	0519		6-107
27	385.0698	0877	1056	1234	1413	1592	1771	1950	2129	2308		7-125
28	2487	2666	2844	3023	3202	3381	3560	3739	3917	4096		8-143
29	4275	4454	4633	4811	4990	5169	5348	5526	5705	5884		9-161
2430	6063	6241	6420	6599	6777	6956	7135	7314	7492	7671		178
31	7850	8028	8207	8385	8564	8743	8921	9100	9278	9457		1-18
32	9535	9714	9893	0171	0350	0528	0707	0885	1064	1242		2-36
33	386.1421	1599	1778	1956	2135	2313	2492	2670	2849	3027	178	3-53
34	3206	3384	3562	3741	3919	4098	4276	4454	4633	4811		4-71
35	4990	5168	5346	5525	5703	5881	6060	6238	6416	6594		5-89
36	6773	6951	7129	7308	7486	7664	7842	8021	8199	8377		6-107
37	8555	8733	8912	9090	9268	9446	9624	9802	9981	0159		7-125
38	387.0337	0515	0693	0871	1049	1227	1406	1584	1762	1940		8-142
39	2118	2296	2474	2652	2830	3008	3186	3364	3542	3720		9-160
2440	3898	4076	4254	4432	4610	4788	4966	5144	5322	5500		
41	5678	5856	6034	6211	6389	6567	6745	6923	7101	7279		
42	7457	7634	7812	7990	8168	8346	8523	8701	8879	9057		
43	9235	9412	9590	9768	9946	0123	0301	0479	0657	0834		
44	388.1012	1190	1367	1545	1723	1900	2078	2256	2433	2611		
45	2789	2966	3144	3321	3499	3677	3854	4032	4209	4387		
46	4565	4742	4920	5097	5275	5452	5630	5807	5985	6162		
47	6340	6517	6695	6872	7049	7227	7404	7582	7759	7937	177	
48	8114	8291	8469	8646	8824	9001	9178	9355	9533	9710		
49	9888	0065	0242	0420	0597	0774	0952	1129	1306	1483		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 24500. L. 389.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2450	389.1661	1838	2015	2193	2370	2547	2724	2901	3079	3256	177	177
51	3433	3610	3787	3965	4142	4319	4496	4673	4850	5027		1-18
52	5205	5382	5559	5736	5913	6090	6267	6444	6621	6798		2-35
53	6975	7152	7329	7506	7684	7861	8038	8215	8392	8569		3-53
54	8746	8922	9099	9276	9453	9630	9807	9984	0161	0338		4-71
55	390.0515	0692	0869	1046	1222	1399	1576	1753	1930	2107		5-88
56	2284	2460	2637	2814	2991	3168	3344	3521	3698	3875		6-106
57	4052	4228	4405	4582	4758	4935	5112	5289	5465	5642		7-124
58	5819	5995	6172	6349	6525	6702	6879	7055	7232	7409		8-142
59	7585	7762	7938	8115	8292	8468	8645	8821	8998	9174		9-159
2460	9351	9528	9704	9881	0057	0234	0410	0587	0763	0940		176
61	391.1116	1293	1469	1645	1822	1998	2175	2351	2528	2704	176	1-18
62	2880	3057	3233	3410	3586	3762	3940	4115	4291	4468		2-35
63	4644	4820	4997	5173	5349	5526	5702	5878	6054	6231		3-53
64	6407	6583	6759	6936	7112	7288	7464	7641	7817	7993		4-70
65	8169	8345	8521	8698	8874	9050	9226	9402	9578	9755		5-88
66	9931	0107	0283	0459	0635	0811	0987	1163	1339	1515		6-106
67	392.1691	1867	2043	2219	2396	2572	2748	2924	3099	3275		7-123
68	3452	3627	3803	3979	4155	4331	4507	4683	4859	5035		8-141
69	5211	5387	5563	5738	5914	6090	6265	6442	6618	6794		9-158
2470	6970	7145	7321	7497	7673	7848	8024	8200	8376	8552		175
71	8727	8903	9079	9255	9430	9606	9782	9957	0133	0309		1-17
72	393.0485	0660	0836	1012	1187	1363	1539	1714	1890	2065		2-35
73	2241	2417	2592	2768	2943	3119	3295	3470	3646	3821		3-52
74	3997	4172	4348	4523	4699	4874	5050	5225	5401	5576		4-70
75	5752	5927	6103	6278	6454	6629	6805	6980	7155	7331	175	5-87
76	7505	7681	7857	8033	8208	8383	8559	8734	8909	9085		6-105
77	9260	9435	9611	9786	9961	0137	0312	0487	0662	0838		7-122
78	394.1213	1188	1363	1539	1714	1889	2064	2240	2415	2590		8-140
79	2765	2940	3116	3291	3466	3641	3816	3991	4167	4342		9-157
2480	4517	4692	4867	5042	5217	5392	5567	5742	5917	6093		
81	6258	6433	6618	6793	6968	7143	7318	7493	7668	7843		
82	8018	8193	8368	8543	8718	8893	9067	9242	9417	9592		
83	9767	9942	0117	0292	0467	0642	0816	0991	1166	1341		
84	395.1516	1691	1866	2040	2215	2390	2565	2740	2914	3089		
85	3264	3439	3613	3788	3963	4138	4312	4487	4662	4836		
86	5011	5186	5361	5535	5710	5885	6059	6234	6409	6583		
87	6758	6932	7107	7282	7456	7631	7805	7980	8155	8329		
88	8504	8678	8853	9027	9202	9376	9551	9725	9900	0074		
89	396.0249	0423	0598	0772	0947	1121	1296	1470	1645	1819	174	
2490	1993	2168	2342	2517	2691	2865	3040	3214	3389	3563		174
91	3737	3912	4086	4260	4435	4609	4783	4957	5132	5306		1-17
92	5480	5655	5829	6003	6177	6352	6526	6700	6874	7049		2-35
93	7223	7397	7571	7745	7920	8094	8268	8442	8616	8790		3-52
94	8964	9139	9313	9487	9661	9835	0009	0183	0357	0531		4-70
95	397.0705	0880	1054	1228	1402	1576	1750	1924	2098	2272		5-87
96	2446	2620	2794	2968	3142	3316	3490	3664	3838	4011		6-104
97	4185	4359	4533	4707	4881	5055	5229	5403	5577	5750		7-122
98	5924	6098	6272	6446	6620	6793	6967	7141	7315	7489		8-139
99	7663	7836	8010	8184	8358	8531	8705	8879	9053	9226		9-157
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2500	397.9400	9574	9747	9921	0095	0269	0442	0616	0790	0963	174	174
01	398.1137	1311	1484	1658	1831	2005	2179	2352	2526	2699	1	1-17
02		2873	3047	3220	3394	3567	3741	3914	4088	4261	4435	2-35
03		4608	4782	4955	5129	5302	5476	5649	5823	5996	6170	3-52
04		6343	6517	6690	6863	7037	7210	7384	7557	7730	7904	4-70
05		8077	8251	8424	8597	8771	8944	9117	9291	9464	9637	5-87
06		9811	9984	0157	0330	0504	0677	0850	1024	1197	1370	6-104
07	399.1543	1717	1890	2063	2236	2409	2583	2756	2929	3102		7-122
08		3275	3448	3622	3795	3968	4141	4314	4487	4660	4833	8-139
09		5007	5180	5353	5526	5699	5872	6045	6218	6391	6564	9-157
2510		6737	6910	7083	7256	7429	7602	7775	7948	8121	8294	173
11		8467	8640	8813	8986	9159	9332	9505	9678	9850	0023	1-17
12	400.0196	0369	0542	0715	0888	1061	1233	1406	1579	1752		2-35
13		1925	2098	2270	2443	2616	2789	2962	3134	3307	3480	3-52
14		3653	3825	3998	4171	4344	4516	4689	4862	5034	5207	4-69
15		5380	5552	5725	5898	6070	6243	6416	6588	6761	6934	5-86
16		7105	7279	7451	7624	7797	7969	8142	8314	8487	8660	6-104
17		8832	9005	9177	9350	9522	9695	9867	0040	0212	0385	7-121
18	401.0557	0730	0902	1075	1247	1419	1592	1764	1937	2109	172	8-138
19		2282	2454	2626	2799	2971	3144	3316	3488	3661	3833	9-156
2520		4005	4178	4350	4522	4695	4867	5039	5212	5384	5556	172
21		5728	5901	6073	6245	6417	6590	6762	6934	7106	7279	1-17
22		7451	7623	7795	7967	8140	8312	8484	8656	8828	9000	2-34
23		9173	9345	9517	9689	9861	0033	0205	0377	0549	0721	3-52
24	402.0893	1066	1238	1410	1582	1754	1926	2098	2270	2442		4-69
25		2614	2786	2958	3130	3302	3474	3646	3818	3990	4162	5-86
26		4335	4505	4677	4849	5021	5193	5365	5537	5709	5881	6-103
27		6052	6224	6396	6568	6740	6912	7083	7255	7427	7599	7-120
28		7771	7942	8114	8286	8458	8629	8801	8973	9145	9317	8-138
29		9488	9660	9832	0003	0175	0347	0518	0690	0862	1034	9-155
2530	403.1205	1377	1548	1720	1892	2063	2235	2407	2578	2750		171
31		2921	3093	3265	3436	3608	3779	3951	4122	4294	4465	1-17
32		4637	4808	4980	5152	5323	5494	5666	5837	6009	6180	171
33		6352	6523	6695	6866	7038	7209	7380	7552	7723	7895	2-34
34		8056	8227	8409	8580	8752	8923	9094	9266	9437	9608	3-51
35		9780	9951	0122	0294	0465	0636	0807	0979	1150	1321	4-68
36	404.1492	1664	1835	2006	2177	2349	2520	2691	2862	3033		5-85
37		3205	3376	3547	3718	3889	4060	4232	4403	4574	4745	6-103
38		4916	5087	5258	5429	5601	5772	5943	6114	6285	6456	7-120
39		6627	6798	6969	7140	7311	7482	7653	7824	7995	8166	8-137
2540		8337	8508	8679	8850	9021	9192	9363	9534	9705	9876	9-154
41	405.0047	0218	0388	0559	0730	0901	1072	1243	1414	1585		
42		1755	1926	2097	2268	2439	2610	2780	2951	3122	3293	
43		3464	3634	3805	3976	4147	4317	4488	4659	4830	5000	
44		5171	5342	5512	5683	5854	6025	6195	6366	6537	6707	
45		6878	7048	7219	7390	7560	7731	7902	8072	8243	8413	
46		8584	8755	8925	9096	9266	9437	9607	9778	9948	0119	
47	406.0289	0460	0630	0801	0971	1142	1312	1483	1653	1824	170	
48		1994	2165	2335	2505	2676	2846	3017	3187	3358	3528	
49		3698	3869	4039	4209	4380	4550	4720	4891	5061	5232	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 25500. L. 406

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2550	406	5402	5572	5742	5913	6083	6253	6424	6594	6764	6934	170
51		7105	7275	7445	7615	7785	7956	8126	8296	8466	8636	1-17
52		8807	8977	9147	9317	9487	9657	9828	9998	0168	0338	2-34
53	407	0508	0678	0848	1018	1188	1359	1529	1699	1869	2039	3-51
54		2209	2379	2549	2719	2889	3059	3229	3399	3569	3739	4-68
55		3909	4079	4249	4419	4589	4759	4929	5099	5269	5439	5-85
56		5608	5778	5948	6118	6288	6458	6628	6798	6968	7137	6-102
57		7307	7477	7647	7817	7987	8156	8326	8496	8666	8836	7-119
58		9005	9175	9345	9515	9684	9854	0024	0194	0363	0533	8-136
59	408	0703	0873	1042	1212	1382	1551	1721	1891	2060	2230	9-153
2560		2400	2569	2739	2909	3078	3248	3417	3587	3757	3926	169
61		4096	4265	4435	4604	4774	4944	5113	5283	5452	5622	1-17
62		5791	5961	6130	6300	6469	6639	6808	6978	7147	7317	2-34
63		7486	7655	7825	7994	8164	8333	8503	8672	8841	9011	3-51
64		9180	9350	9519	9688	9858	0027	0196	0366	0535	0704	4-68
65	409	0874	1043	1212	1382	1551	1720	1889	2059	2228	2397	5-84
66		2567	2736	2905	3074	3243	3413	3582	3751	3920	4089	6-101
67		4259	4428	4597	4766	4935	5104	5274	5443	5612	5781	7-118
68		5950	6119	6288	6457	6627	6796	6965	7134	7303	7472	8-135
69		7641	7810	7979	8148	8317	8486	8655	8824	8993	9162	9-152
2570		9331	9500	9669	9838	0007	0176	0345	0514	0683	0852	168
71	410	1021	1190	1359	1527	1696	1865	2034	2203	2372	2541	1-17
72		2710	2878	3047	3216	3385	3554	3723	3891	4060	4229	2-34
73		4398	4567	4735	4904	5073	5242	5410	5579	5748	5917	3-50
74		6085	6254	6423	6592	6760	6929	7098	7266	7435	7604	4-67
75		7772	7941	8110	8278	8447	8615	8784	8953	9121	9290	5-84
76		9459	9627	9796	9964	0133	0301	0470	0639	0807	0976	6-101
77	411	1144	1313	1481	1650	1818	1987	2155	2324	2492	2661	7-118
78		2829	2998	3166	3334	3503	3671	3840	4008	4177	4345	8-134
79		4513	4682	4850	5019	5187	5355	5524	5692	5860	6029	9-151
2580		6197	6365	6534	6702	6870	7039	7207	7375	7543	7712	
81		7880	8048	8217	8385	8553	8721	8889	9058	9226	9394	
82		9552	9731	9899	0067	0235	0403	0571	0740	0908	1076	
83	412	1244	1412	1580	1748	1917	2085	2253	2421	2589	2757	
84		2925	3093	3261	3429	3597	3765	3933	4101	4269	4437	
85		4605	4773	4941	5109	5277	5445	5613	5781	5949	6117	
86		6285	6453	6621	6789	6957	7125	7293	7461	7628	7796	
87		7964	8132	8300	8458	8636	8804	8971	9139	9307	9475	
88		9643	9810	9978	0146	0314	0482	0649	0817	0985	1153	
89	413	1320	1488	1656	1824	1991	2159	2327	2495	2662	2830	
2590		2998	3165	3333	3501	3668	3836	4004	4171	4339	4506	167
91		4674	4842	5009	5177	5344	5512	5680	5847	6015	6182	1-17
92		6350	6517	6685	6853	7020	7188	7355	7523	7690	7858	2-33
93		8025	8193	8360	8528	8695	8862	9030	9197	9365	9532	3-50
94		9700	9867	0035	0202	0369	0537	0704	0871	1039	1206	4-67
95	414	1374	1541	1708	1876	2043	2210	2378	2545	2712	2880	5-83
96		3047	3214	3381	3549	3716	3883	4050	4218	4385	4552	6-106
97		4719	4887	5054	5221	5388	5556	5723	5890	6057	6224	7-117
98		6391	6559	6726	6893	7060	7227	7394	7561	7729	7896	8-134
99		8053	8230	8397	8564	8731	8898	9065	9232	9399	9566	9-150
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2600	414.9733	9900	0057	0235	0422	0569	0735	0903	1070	1236	167	167
01	415.1404	1570	1737	1904	2071	2238	2405	2572	2739	2906		1-17
02		3073	3240	3407	3574	3740	3907	4074	4241	4408		2-33
03		4742	4908	5075	5242	5409	5576	5743	5909	6076		3-50
04		6410	6577	6743	6910	7077	7244	7410	7577	7744		4-67
05		8077	8244	8411	8577	8744	8911	9077	9244	9411		5-83
06		9744	9911	0077	0244	0411	0577	0744	0910	1077		6-100
07	416.1410	1577	1743	1910	2077	2243	2410	2576	2743	2909		7-117
08		3076	3242	3409	3575	3742	3908	4075	4241	4408	166	8-134
09		4741	4907	5074	5240	5407	5573	5739	5906	6072	239	9-150
2610		6405	6571	6738	6904	7071	7237	7403	7570	7736	7902	166
11		8069	8235	8401	8568	8734	8900	9067	9233	9399	9565	1-17
12		9732	9898	0054	0230	0397	0563	0729	0895	1062	1228	2-33
13	417.1394	1560	1726	1893	2059	2225	2391	2557	2723	2890		3-50
14		3056	3222	3388	3554	3720	3886	4053	4219	4385	4551	4-66
15		4717	4883	5049	5215	5381	5547	5713	5879	6045	6211	5-83
16		6377	6543	6709	6875	7041	7207	7373	7539	7705	7871	6-100
17		8037	8203	8369	8535	8701	8867	9033	9199	9365	9530	7-116
18		9696	9862	0028	0194	0350	0526	0692	0857	1023	1189	8-133
19	418.1355	1521	1687	1852	2018	2184	2350	2516	2681	2847		9-149
2620		3013	3179	3344	3511	3676	3842	4007	4173	4339	4504	165
21		4670	4836	5002	5167	5333	5499	5664	5830	5996	6161	1-16
22		6327	6492	6658	6824	6989	7155	7321	7486	7652	7817	2-33
23		7983	8148	8314	8480	8645	8811	8976	9142	9307	9473	3-49
24		9638	9804	9969	0135	0300	0466	0631	0797	0962	1128	4-66
25	419.1293	1458	1624	1789	1955	2120	2286	2451	2616	2782		5-82
26		2947	3113	3278	3443	3609	3774	3939	4105	4270	4435	6-99
27		4601	4766	4931	5097	5262	5427	5592	5758	5923	6088	7-115
28		6254	6419	6584	6749	6915	7080	7245	7410	7575	7741	8-132
29		7906	8071	8236	8401	8567	8732	8897	9062	9227	9392	9-148
2630		9557	9723	9888	0053	0218	0383	0548	0713	0878	1043	
31	420.1208	1373	1539	1704	1869	2034	2199	2364	2529	2694		
32		2859	3024	3189	3354	3519	3684	3849	4014	4179	4344	
33		4509	4673	4838	5003	5168	5333	5498	5663	5828	5993	
34		6158	6323	6487	6652	6817	6982	7147	7312	7476	7641	
35		7805	7971	8136	8301	8465	8630	8795	8960	9124	9289	
36		9454	9619	9784	9948	0113	0278	0442	0607	0772	0937	
37	421.1101	1266	1431	1595	1760	1925	2089	2254	2419	2583		
38		2748	2912	3077	3242	3406	3571	3736	3900	4065	4229	
39		4394	4558	4723	4888	5052	5217	5381	5546	5710	5875	
2640		6039	6204	6368	6533	6697	6862	7026	7191	7355	7520	164
41		7684	7848	8013	8177	8342	8506	8671	8835	8999	9164	1-16
42		9328	9492	9657	9821	9986	0150	0314	0479	0643	0807	2-33
43	422.0972	1136	1300	1465	1629	1793	1957	2122	2286	2450		3-49
44		2614	2779	2943	3107	3271	3436	3600	3764	3928	4093	4-66
45		4257	4421	4585	4749	4913	5078	5242	5406	5570	5734	5-82
46		5898	6062	6227	6391	6555	6719	6883	7047	7211	7375	6-98
47		7539	7703	7867	8032	8196	8360	8524	8688	8852	9016	7-115
48		9180	9344	9508	9672	9836	0000	0164	0328	0492	0656	8-131
49	423.0820	0983	1147	1311	1475	1639	1803	1967	2131	2295		9-148
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
2650	423	2459	2623	2785	2950	3114	3278	3442	3606	3770	3933	164
51		4097	4261	4425	4589	4752	4916	5080	5244	5408	5571	
52		5735	5899	6063	6226	6390	6554	6718	6881	7045	7209	
53		7372	7536	7700	7864	8027	8191	8355	8518	8682	8845	
54		9009	9173	9336	9500	9664	9827	9991	10154	10318	10482	
55	424	0645	0809	0972	1135	1299	1463	1627	1790	1954	2117	
56		2281	2444	2608	2771	2935	3098	3262	3425	3589	3752	163
57		3916	4079	4242	4406	4569	4733	4896	5060	5223	5386	
58		5550	5713	5876	6040	6203	6367	6530	6693	6857	7020	
59		7183	7347	7510	7673	7837	8000	8163	8326	8490	8653	
2660		8816	8980	9143	9306	9469	9633	9796	9959	10122	10285	
61	425	0449	0612	0775	0938	1101	1265	1428	1591	1754	1917	163
62		2081	2244	2407	2570	2733	2896	3059	3222	3385	3549	1-16
63		3712	3875	4038	4201	4364	4527	4690	4853	5016	5179	2-33
64		5342	5505	5668	5831	5994	6157	6320	6483	6646	6809	3-49
65		6972	7135	7298	7461	7624	7787	7950	8113	8276	8439	4-65
66		8601	8764	8927	9090	9253	9416	9579	9742	9905	10068	5-81
67	426	0230	0393	0556	0719	0881	1044	1207	1370	1533	1695	6-98
68		1858	2021	2184	2347	2509	2672	2835	2998	3160	3323	7-114
69		3486	3648	3811	3974	4137	4299	4462	4625	4787	4950	8-130
2670		5113	5275	5438	5601	5763	5926	6088	6251	6414	6576	9-147
71		6739	6901	7064	7227	7389	7552	7714	7877	8039	8202	162
72		8365	8527	8690	8852	9015	9177	9340	9502	9665	9827	1-16
73		9990	0152	0314	0477	0639	0802	0964	1127	1289	1452	2-32
74	427	1614	1776	1939	2101	2264	2426	2588	2751	2913	3075	3-49
75		3238	3400	3563	3725	3887	4050	4212	4374	4536	4699	4-65
76		4861	5023	5186	5348	5510	5672	5835	5997	6159	6321	5-81
77		6484	6646	6808	6970	7133	7295	7457	7619	7781	7944	6-97
78		8106	8268	8430	8592	8754	8916	9079	9241	9403	9565	7-113
79		9727	9889	10051	10213	10375	10538	10700	10862	11024	11186	8-130
2680	428	1348	1510	1672	1834	1996	2158	2320	2482	2644	2806	9-146
81		2968	3130	3292	3454	3616	3778	3940	4102	4264	4426	
82		4588	4750	4912	5073	5235	5397	5559	5721	5883	6045	
83		6207	6369	6530	6692	6854	7016	7178	7340	7501	7663	
84		7825	7987	8149	8310	8472	8634	8796	8958	9119	9281	
85		9443	9605	9766	9928	10090	10252	10413	10575	10737	10898	
86	429	1060	1222	1383	1545	1707	1868	2030	2192	2353	2515	
87		2677	2838	3000	3161	3323	3485	3646	3808	3969	4131	
88		4293	4454	4616	4777	4939	5100	5262	5423	5585	5746	161
89		5908	6069	6231	6392	6554	6715	6877	7038	7200	7361	
2690		7523	7684	7846	8007	8168	8330	8491	8653	8814	8976	
91		9137	9298	9459	9621	9782	9944	10105	10266	10428	10589	
92	430	0751	0912	1073	1234	1396	1557	1718	1880	2041	2202	
93		2363	2525	2686	2847	3009	3170	3331	3492	3653	3815	
94		3976	4137	4298	4459	4621	4782	4943	5104	5265	5426	
95		5588	5749	5910	6071	6232	6393	6554	6715	6877	7038	
96		7199	7360	7521	7682	7843	8004	8165	8326	8487	8648	
97		8809	8970	9131	9292	9453	9614	9775	9936	10097	10258	
98	431	0419	0580	0741	0902	1063	1224	1385	1546	1707	1868	
99		2029	2190	2351	2511	2672	2833	2994	3155	3316	3477	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 27000. L. 431.						Logarithms							
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
2700	431.	3638	3798	3959	4120	4281	4442	4603	4763	4924	5085	161	151
01		5246	5407	5567	5728	5889	6050	6210	6371	6532	6693		1-16
02		6853	7014	7175	7336	7496	7657	7818	7978	8139	8300		2-32
03		8460	8621	8782	8942	9103	9264	9424	9585	9746	9906		3-48
04	432.	0067	0227	0388	0549	0709	0870	1030	1191	1352	1512		4-64
05		1673	1833	1994	2154	2315	2475	2636	2796	2957	3117		5-80
06		3278	3438	3599	3759	3920	4080	4241	4401	4562	4722	160	6-97
07		4883	5043	5203	5364	5524	5685	5845	6005	6166	6326		7-113
08		6487	6647	6807	6968	7128	7288	7449	7609	7769	7930		8-129
09		8090	8250	8411	8571	8731	8892	9052	9212	9372	9533		9-145
2710		9693	9853	0013	0174	0334	0494	0654	0815	0975	1135		160
11	433.	1295	1455	1616	1776	1936	2096	2256	2416	2577	2737		1-16
12		2897	3057	3217	3377	3537	3697	3857	4018	4178	4338		2-32
13		4498	4658	4818	4978	5138	5298	5458	5618	5778	5938		3-48
14		6098	6258	6418	6578	6738	6898	7058	7218	7378	7538		4-64
15		7698	7858	8018	8178	8338	8498	8658	8818	8978	9138		5-80
16		9298	9458	9618	9777	9935	0097	0257	0417	0577	0736		6-96
17	434.	0896	1056	1216	1376	1536	1695	1855	2015	2175	2335		7-112
18		2495	2654	2814	2974	3134	3293	3453	3613	3773	3932		8-128
19		4092	4252	4411	4571	4731	4891	5050	5210	5370	5529		6-144
2720		5689	5849	6008	6168	6328	6487	6647	6807	6966	7126		159
21		7285	7445	7605	7764	7924	8083	8243	8402	8562	8722		1-16
22		8881	9041	9200	9360	9519	9679	9838	9998	0157	0317		2-32
23	435.	0476	0636	0795	0955	1114	1274	1433	1593	1752	1912	159	3-48
24		2071	2230	2390	2549	2709	2868	3027	3187	3346	3506		4-64
25		3665	3824	3984	4143	4302	4462	4621	4780	4940	5099		5-79
26		5259	5418	5577	5736	5896	6055	6214	6374	6533	6692		6-95
27		6851	7011	7170	7329	7488	7648	7807	7966	8125	8284		7-111
28		8444	8603	8762	8921	9080	9240	9399	9558	9717	9876		8-127
29	435.	0035	0194	0354	0513	0672	0831	0990	1149	1308	1467		9-143
2730		1626	1786	1945	2104	2263	2422	2581	2740	2899	3058		
31		3217	3376	3535	3694	3853	4012	4171	4330	4489	4648		
32		4807	4966	5125	5284	5443	5602	5761	5920	6078	6237		
33		6396	6555	6714	6873	7032	7191	7350	7508	7667	7826		
34		7985	8144	8303	8462	8620	8779	8938	9097	9256	9414		
35		9573	9732	9891	0050	0208	0367	0526	0685	0843	1002		
36	437.	1161	1320	1478	1637	1796	1954	2113	2272	2431	2589		
37		2748	2907	3065	3224	3383	3541	3700	3859	4017	4176		
38		4334	4493	4652	4810	4969	5127	5286	5445	5603	5762		
39		5920	6079	6237	6396	6554	6713	6872	7030	7189	7347		
2740		7506	7664	7823	7981	8140	8298	8456	8615	8773	8932	158	158
41		9090	9249	9407	9566	9724	9882	0041	0199	0358	0516		1-16
42	438.	0675	0833	0991	1150	1308	1466	1625	1783	1941	2100		2-32
43		2258	2415	2575	2733	2891	3050	3208	3366	3524	3683		3-47
44		3841	3999	4158	4316	4474	4632	4791	4949	5107	5265		4-63
45		5423	5582	5740	5898	6056	6214	6373	6531	6689	6847		5-79
46		7005	7163	7322	7480	7638	7796	7954	8112	8270	8428		6-95
47		8587	8745	8903	9061	9219	9377	9535	9693	9851	1009		7-111
48	439.	0167	0325	0483	0641	0799	0957	1115	1273	1431	1589		8-126
49		1747	1905	2063	2221	2379	2537	2695	2853	3011	3169		9-142
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.	

to 101000.

N. 27500. L. 439.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2750	439	3327	3485	3643	3801	3959	4116	4274	4432	4590	4748	157
51		4906	5064	5222	5379	5537	5695	5853	6011	6169	6326	
52		6484	6542	6800	6958	7115	7273	7431	7589	7747	7904	
53		8062	8220	8378	8535	8693	8851	9008	9166	9324	9482	
54		9639	9797	9955	0112	0270	0428	0585	0743	0901	1058	
55	440	1216	1374	1531	1689	1846	2004	2162	2319	2477	2634	
56		2792	2950	3107	3265	3422	3580	3737	3895	4053	4210	
57		4368	4525	4683	4840	4998	5155	5313	5470	5628	5785	157
58		5943	6100	6257	6415	6572	6730	6887	7045	7202	7360	
59		7517	7674	7832	7989	8147	8304	8461	8619	8776	8933	
2760		9091	9248	9405	9563	9720	9877	0035	0192	0349	0507	157
61	441	0664	0821	0979	1136	1293	1450	1608	1765	1922	2079	1-16
62		2237	2394	2551	2708	2866	3023	3180	3337	3494	3652	2-31
63		3809	3966	4123	4280	4437	4595	4752	4909	5066	5223	3-47
64		5380	5537	5695	5852	6009	6166	6323	6480	6637	6794	4-63
65		6951	7108	7265	7422	7580	7737	7894	8051	8208	8365	5-78
66		8522	8679	8836	8993	9150	9307	9464	9621	9778	9935	6-94
67	442	0092	0248	0405	0562	0719	0876	1033	1190	1347	1504	7-110
68		1661	1818	1975	2131	2288	2445	2602	2759	2916	3073	8-126
69		3230	3386	3543	3700	3857	4014	4170	4327	4484	4641	9-141
2770		4798	4954	5111	5268	5425	5581	5738	5895	6052	6208	156
71		6365	6522	6679	6835	6992	7149	7305	7462	7619	7776	1-16
72		7932	8089	8246	8402	8559	8715	8872	9029	9185	9342	2-31
73		9499	9655	9812	9968	0125	0282	0438	0595	0751	0908	3-47
74	443	1065	1221	1378	1534	1691	1847	2004	2160	2317	2473	4-62
75		2630	2786	2943	3099	3256	3412	3569	3725	3882	4038	156
76		4195	4351	4507	4664	4820	4977	5133	5290	5446	5602	6-94
77		5759	5915	6072	6228	6384	6541	6697	6853	7010	7166	7-109
78		7322	7479	7635	7791	7948	8104	8260	8417	8573	8729	8-125
79		8885	9042	9198	9354	9510	9667	9823	9979	0135	0292	9-140
2780	444	0448	0604	0760	0917	1073	1229	1385	1541	1697	1853	
81		2010	2166	2322	2478	2634	2791	2947	3103	3259	3415	
82		3571	3727	3883	4040	4196	4352	4508	4664	4820	4976	
83		5132	5288	5444	5600	5756	5912	6068	6224	6380	6536	
84		6692	6848	7004	7160	7316	7472	7628	7784	7940	8096	
85		8252	8408	8564	8720	8876	9032	9187	9343	9499	9655	
86		9811	9967	0123	0279	0435	0590	0746	0902	1058	1214	
87	445	1370	1525	1681	1837	1993	2149	2305	2460	2616	2772	
88		2928	3083	3239	3395	3551	3706	3862	4018	4174	4329	
89		4485	4641	4797	4952	5108	5264	5419	5575	5731	5886	
2790		6042	6198	6353	6509	6665	6820	6976	7131	7287	7443	155
91		7598	7754	7910	8065	8221	8376	8532	8687	8843	8999	1-15
92		9154	9310	9465	9621	9776	9932	0087	0243	0398	0554	2-31
93	446	0709	0865	1020	1176	1331	1487	1642	1797	1953	2109	155
94		2264	2419	2575	2730	2886	3041	3196	3352	3507	3663	4-62
95		3818	3973	4129	4284	4440	4595	4750	4906	5061	5216	5-77
96		5372	5527	5682	5838	5993	6148	6303	6459	6614	6769	6-93
97		6925	7080	7235	7390	7546	7701	7856	8011	8167	8322	7-108
98		8477	8632	8787	8943	9098	9253	9408	9563	9719	9874	8-124
99	447	0090	0145	0300	0455	0610	0765	0920	1075	1230	1385	9-139
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.28000. L. 447.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
2800	7.1580	1735	1890	2046	2201	2356	2511	2666	2821	2976	155	155
01	3131	3286	3441	3596	3751	3906	4061	4216	4371	4526	1-15	
02	4681	4836	4991	5146	5301	5456	5611	5766	5921	6076	2-31	
03	6231	6386	6541	6696	6851	7006	7161	7315	7470	7625	3-46	
04	7780	7935	8090	8245	8400	8554	8709	8864	9019	9174	4-62	
05	9329	9483	9638	9793	9948	0103	0257	0412	0567	0722	5-77	
06	448.0877	1031	1186	1341	1496	1650	1805	1960	2115	2269	6-93	
07	2424	2579	2734	2888	3043	3198	3352	3507	3662	3816	7-108	
08	3971	4126	4280	4435	4590	4744	4899	5053	5208	5363	8-124	
09	5517	5672	5827	5981	6136	6290	6445	6599	6754	6909	9-139	
2810	7063	7218	7372	7527	7681	7836	7990	8145	8299	8454		154
11	8608	8763	8917	9072	9226	9381	9535	9690	9844	9999	154	1-15
12	449.0153	0308	0462	0616	0771	0925	1080	1234	1388	1543	2-31	
13	1697	1852	2006	2160	2315	2469	2623	2778	2932	3087	3-46	
14	3241	3395	3550	3704	3858	4012	4167	4321	4475	4630	4-62	
15	4784	4938	5092	5247	5401	5555	5710	5864	6018	6172	5-77	
16	6327	6481	6635	6789	6943	7098	7252	7406	7560	7714	6-92	
17	7868	8023	8177	8331	8485	8639	8793	8947	9102	9256	7-108	
18	9410	9564	9718	9872	0026	0180	0334	0489	0643	0797	8-123	
19	450.0951	1105	1259	1413	1567	1721	1875	2029	2183	2337	9-139	
2820	2491	2645	2799	2953	3107	3261	3415	3569	3722	3877		
21	4031	4185	4339	4493	4647	4800	4954	5108	5262	5416		
22	5570	5724	5878	6032	6185	6339	6493	6647	6801	6955		
23	7109	7263	7416	7570	7724	7878	8032	8185	8339	8493		
24	8647	8801	8954	9108	9262	9416	9569	9723	9877	0031		
25	451.0185	0338	0492	0646	0799	0953	1107	1260	1414	1568		
26	1722	1875	2029	2183	2336	2490	2643	2797	2951	3104		
27	3258	3412	3565	3719	3872	4026	4180	4333	4487	4640		
28	4794	4948	5101	5255	5408	5562	5715	5869	6022	6176		
29	6329	6483	6636	6790	6943	7097	7250	7404	7557	7711	153	
2830	7864	8018	8171	8325	8478	8632	8785	8938	9092	9245		153
31	9399	9552	9705	9859	0012	0166	0319	0472	0626	0779		1-15
32	452.0932	1086	1239	1392	1546	1699	1852	2006	2159	2312		2-31
33	2466	2619	2772	2926	3079	3232	3385	3539	3692	3845		3-46
34	3998	4152	4305	4458	4611	4765	4918	5071	5224	5377		4-61
35	5531	5684	5837	5990	6143	6296	6450	6603	6756	6909		5-76
36	7062	7215	7368	7522	7675	7828	7981	8134	8287	8440		6-92
37	8593	8746	8899	9053	9206	9359	9512	9665	9818	9971		7-107
38	453.0124	1277	0430	0583	0736	0889	1042	1195	1347	1501		8-122
39	1654	1807	1960	2113	2266	2419	2572	2725	2877	3030		9-138
2840	3183	3336	3489	3642	3795	3948	4101	4254	4407	4559		
41	4712	4865	5018	5171	5324	5477	5629	5782	5935	6088		
42	6241	6393	6546	6699	6852	7005	7157	7310	7463	7616		
43	7769	7921	8074	8227	8380	8532	8685	8838	8990	9143		
44	9296	9449	9601	9754	9907	0059	0212	0365	0517	0670		
45	454.0823	0975	1128	1281	1433	1585	1738	1891	2044	2196		
46	2249	2502	2654	2807	2959	3112	3264	3417	3570	3722		
47	3875	4027	4180	4332	4485	4637	4790	4942	5095	5247		
48	5400	5552	5705	5857	6010	6162	6315	6467	6620	6772	152	
49	6924	7077	7229	7382	7534	7687	7839	7991	8144	8296		
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to 101000.

N. 28500. L. 454

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51		9972	0124	0277	0429	0581	0734	0886	1038	1191	1343		1-15
52	455	1495	1647	1800	1952	2104	2256	2409	2561	2713	2865		2-30
53		3018	3170	3322	3474	3627	3779	3931	4083	4235	4387		3-46
54		4540	4692	4844	4996	5148	5300	5453	5605	5757	5909		4-61
55		6061	6213	6365	6517	6670	6822	6974	7126	7278	7430		5-76
56		7582	7734	7886	8038	8190	8342	8494	8646	8798	8950		6-91
57		9102	9254	9406	9558	9710	9862	0014	0166	0318	0470		7-106
58	456	0622	0774	0926	1078	1230	1382	1534	1686	1838	1990		8-122
59		2142	2293	2445	2597	2749	2901	3053	3205	3357	3508		9-137
2860		3660	3812	3964	4116	4268	4419	4571	4723	4875	5027		
61		5179	5330	5482	5634	5785	5937	6089	6241	6393	6544		
62		6696	6848	7000	7151	7303	7455	7607	7758	7910	8062		
63		8213	8365	8517	8668	8820	8972	9123	9275	9427	9578		
64		9730	9882	0033	0185	0337	0488	0640	0791	0943	1095		
65	457	1246	1398	1549	1701	1853	2004	2156	2307	2459	2610		
66		2762	2913	3065	3216	3368	3519	3671	3822	3974	4125		
67		4277	4428	4580	4731	4883	5034	5186	5337	5489	5640	151	
68		5791	5943	6094	6246	6397	6548	6700	6851	7003	7154		
69		7305	7457	7608	7760	7911	8062	8214	8365	8516	8668		
2870		8819	8970	9122	9273	9424	9575	9727	9878	0029	0181		151
71	458	0332	0483	0634	0786	0937	1088	1239	1391	1542	1693		1-15
72		1844	1996	2147	2298	2449	2600	2752	2903	3054	3205		2-30
73		3356	3507	3659	3810	3961	4112	4263	4414	4565	4716		3-45
74		4868	5019	5170	5321	5472	5623	5774	5925	6076	6227		4-60
75		6378	6529	6681	6832	6983	7134	7285	7436	7587	7738		5-75
76		7889	8040	8191	8342	8493	8644	8795	8946	9097	9248		6-91
77		9399	9550	9700	9851	0002	0153	0304	0455	0606	0757		7-106
78	459	0908	1059	1210	1361	1511	1662	1813	1964	2115	2266		8-121
79		2417	2567	2718	2869	3020	3171	3322	3473	3623	3774		9-136
2880		3925	4076	4226	4377	4528	4679	4830	4980	5131	5282		
81		5433	5583	5734	5885	6035	6186	6337	6488	6638	6789		
82		6940	7090	7241	7392	7542	7693	7844	7994	8145	8296		
83		8446	8597	8748	8898	9049	9200	9350	9501	9651	9802		
84		9953	0103	0254	0404	0555	0705	0856	1006	1157	1308		
85	460	1458	1609	1759	1910	2060	2211	2361	2512	2662	2813		
86		2963	3114	3264	3415	3565	3716	3866	4016	4167	4317	150	
87		4468	4618	4769	4919	5069	5220	5370	5521	5671	5821		
88		5972	6122	6273	6423	6573	6724	6874	7024	7175	7325		
89		7475	7626	7776	7926	8077	8227	8377	8528	8678	8828		
2890		8978	9129	9279	9429	9579	9730	9880	0030	0180	0331		150
91	461	0481	0631	0781	0932	1082	1232	1382	1532	1682	1833		1-15
92		1983	2133	2283	2433	2583	2734	2884	3034	3184	3334		2-30
93		3484	3634	3785	3935	4085	4235	4385	4535	4685	4835		3-45
94		4985	5135	5285	5435	5585	5735	5885	6036	6186	6336		4-60
95		6486	6636	6786	6936	7086	7236	7386	7536	7686	7835		5-75
96		7986	8135	8285	8435	8585	8735	8885	9035	9185	9335		6-90
97		9485	9635	9785	9935	0085	0234	0384	0534	0684	0834		7-105
98	462	0984	1134	1283	1433	1583	1733	1883	2033	2182	2332		8-120
99		2482	2632	2782	2932	3081	3231	3381	3531	3680	3830		9-135
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01		5477	5627	5777	5926	6076	6226	6375	6525	6675	6824	1-15
02		6974	7124	7273	7423	7573	7722	7872	8021	8171	8321	2-30
03		8470	8620	8770	8919	9069	9218	9368	9517	9667	9817	3-45
04		9966	0116	0265	0415	0564	0714	0863	1013	1162	1312	4-60
05	463.	1461	1611	1760	1910	2059	2209	2358	2508	2657	2807	149
06		2956	3105	3255	3404	3554	3703	3853	4002	4151	4301	6-90
07		4450	4600	4749	4898	5048	5197	5347	5496	5645	5795	7-105
08		5944	6093	6243	6392	6541	6691	6840	6989	7139	7288	8-120
09		7437	7586	7736	7885	8034	8184	8333	8482	8631	8781	9-135
2910		8930	9079	9228	9378	9527	9676	9825	9974	0124	0273	140
11	464.	0422	0571	0720	0870	1019	1168	1317	1466	1615	1765	1-15
12		1914	2063	2212	2361	2510	2659	2808	2958	3107	3256	2-30
13		3405	3554	3703	3852	4001	4150	4299	4448	4597	4746	3-45
14		4895	5044	5193	5343	5492	5641	5790	5939	6088	6237	4-60
15		6386	6535	6684	6832	6981	7130	7279	7428	7577	7726	5-74
16		7875	8024	8173	8322	8471	8620	8769	8918	9066	9215	6-89
17		9364	9513	9662	9811	9960	0109	0257	0406	0555	0704	7-104
18	465.	0853	1002	1150	1299	1448	1597	1746	1895	2043	2192	8-119
19		2341	2490	2638	2787	2936	3085	3234	3382	3531	3680	9-134
2920		3829	3977	4126	4275	4423	4572	4721	4869	5018	5167	
21		5316	5464	5613	5762	5910	6059	6208	6356	6505	6653	
22		6802	6951	7099	7248	7397	7545	7694	7842	7991	8140	
23		8288	8437	8585	8734	8882	9031	9179	9328	9477	9625	
24		9774	9922	0071	0219	0368	0516	0665	0813	0962	1110	
25	466.	1259	1407	1556	1704	1853	2001	2149	2298	2446	2595	148
26		2743	2892	3040	3188	3337	3485	3634	3782	3930	4079	
27		4227	4376	4524	4672	4821	4969	5117	5266	5414	5562	
28		5711	5859	6007	6156	6304	6452	6601	6749	6897	7045	
29		7134	7282	7430	7578	7727	7875	8023	8171	8319	8467	
2930		8616	8764	8912	9060	9208	9356	9504	9652	9800	9948	148
31	467.	0148	0296	0444	0592	0740	0888	1036	1184	1332	1480	1-15
32		1640	1788	1936	2084	2232	2380	2528	2676	2824	2972	2-30
33		3121	3269	3417	3565	3713	3861	4009	4157	4305	4453	3-44
34		4601	4749	4897	5045	5193	5341	5489	5637	5785	5933	4-59
35		6081	6229	6377	6525	6673	6821	6969	7117	7265	7413	5-74
36		7561	7709	7857	8004	8152	8300	8448	8596	8744	8892	6-89
37		9039	9187	9335	9483	9631	9779	9927	0074	0222	0370	7-104
38	468.	0518	0666	0813	0961	1109	1257	1405	1552	1700	1848	8-118
39		1996	2144	2291	2439	2587	2735	2882	3030	3178	3326	9-133
2940		3473	3621	3769	3916	4064	4212	4359	4507	4655	4803	
41		4950	5098	5246	5393	5541	5688	5836	5984	6131	6279	
42		6427	6574	6722	6869	7017	7165	7312	7460	7607	7755	
43		7903	8050	8198	8345	8493	8640	8788	8935	9083	9230	
44		9378	9526	9673	9821	9968	0116	0263	0411	0558	0705	147
45	469.	0853	1000	1148	1295	1443	1590	1738	1885	2033	2180	
46		2327	2475	2622	2770	2917	3064	3212	3359	3507	3654	
47		3801	3949	4096	4243	4391	4538	4685	4833	4980	5127	
48		5275	5422	5569	5717	5864	6011	6159	6306	6453	6600	
49		6748	6895	7042	7189	7337	7484	7631	7778	7925	8073	
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51	9692	9839	9986	0134	0281	0428	0575	0722	0869	1016		1-15
52	470.1164	1311	1458	1605	1752	1899	2046	2193	2340	2487		2-29
53	2634	2781	2929	3076	3223	3370	3517	3664	3811	3958		3-44
54	4105	4252	4399	4546	4693	4840	4987	5134	5281	5428		4-59
55	5575	5722	5869	6016	6163	6310	6457	6603	6750	6897	*	5-73
56	7044	7191	7338	7485	7632	7779	7926	8073	8219	8366		6-88
57	8513	8660	8807	8954	9101	9247	9394	9541	9688	9835		7-103
58	9982	0128	0275	0422	0569	0716	0862	1009	1155	1303		8-118
59	471.1450	1596	1743	1890	2037	2183	2330	2477	2624	2770		9-132
2960	2917	3064	3210	3357	3504	3651	3797	3944	4091	4237		
61	4384	4531	4677	4824	4971	5117	5264	5411	5557	5704		
62	5851	5997	6144	6290	6437	6584	6730	6877	7023	7170		
63	7317	7463	7610	7756	7903	8049	8196	8342	8489	8635		
64	8782	8928	9075	9221	9368	9514	9661	9807	9954	0100	146	
65	472.0247	0393	0540	0686	0833	0979	1126	1272	1419	1565		
66	1711	1858	2004	2151	2297	2443	2590	2736	2883	3029		
67	3175	3322	3468	3615	3761	3907	4054	4200	4346	4493		
68	4639	4785	4932	5078	5224	5370	5517	5663	5809	5956		
69	6102	6248	6394	6541	6687	6833	6979	7126	7272	7418		
2970	7564	7711	7857	8003	8149	8296	8442	8588	8734	8880		146
71	9027	9173	9319	9465	9611	9757	9903	0050	0196	0342		1-15
72	473.0488	0634	0780	0926	1072	1219	1365	1511	1657	1803		2-29
73	1949	2095	2241	2387	2533	2679	2825	2971	3118	3264		3-44
74	3410	3556	3702	3848	3994	4140	4286	4432	4578	4724		4-58
75	4870	5016	5162	5308	5454	5599	5745	5891	6037	6183		5-73
76	6329	6475	6621	6767	6913	7059	7205	7351	7497	7642		6-88
77	7788	7934	8080	8226	8372	8518	8664	8809	8955	9101		7-102
78	9247	9393	9539	9684	9830	9976	0122	0268	0413	0559		8-117
79	474.0705	0851	0997	1142	1288	1434	1580	1725	1871	2017		
2980	2163	2308	2454	2600	2745	2891	3037	3183	3328	3474		
81	3620	3765	3911	4057	4202	4348	4494	4639	4785	4931		
82	5076	5222	5368	5513	5659	5804	5950	6095	6241	6387		
83	6533	6678	6824	6969	7115	7260	7406	7551	7697	7843		
84	7988	8134	8279	8425	8570	8716	8861	9007	9152	9298	145	
85	9443	9589	9734	9880	0025	0171	0316	0452	0607	0752		
86	475.0898	1043	1189	1334	1480	1625	1771	1916	2061	2207		
87	2352	2498	2643	2788	2934	3079	3224	3370	3515	3660		
88	3806	3951	4097	4242	4387	4533	4678	4823	4968	5114		
89	5259	5404	5550	5695	5840	5985	6131	6276	6421	6567		
2990	6712	6857	7002	7148	7293	7438	7583	7728	7874	8019		145
91	8164	8309	8454	8600	8745	8890	9035	9180	9325	9471		1-14
92	9616	9761	9906	0051	0196	0341	0487	0632	0777	0922		2-29
93	476.1067	1212	1357	1502	1647	1793	1938	2083	2228	2373		3-43
94	2518	2663	2808	2953	3098	3243	3388	3533	3678	3823		4-58
95	3968	4113	4258	4403	4548	4693	4838	4983	5128	5273		5-72
96	5418	5563	5708	5853	5998	6143	6288	6433	6578	6722		6-87
97	6867	7012	7157	7302	7447	7592	7737	7882	8026	8171		7-101
98	8316	8461	8606	8751	8896	9040	9185	9330	9475	9620		8-116
99	9765	9909	0054	0199	0344	0489	0633	0778	0923	1068		9-130
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3000	477. 1213	1357	1502	1647	1791	1936	2081	2226	2370	2515	145	145
01	2660	2805	2949	3094	3239	3383	3528	3673	3817	3962		1-14
02	4107	4251	4396	4541	4685	4830	4975	5119	5264	5409		2-29
03	5553	5698	5842	5987	6132	6276	6421	6565	6710	6855		3-43
04	6999	7144	7288	7433	7577	7722	7867	8011	8156	8300		4-58
05	8445	8589	8734	8878	9023	9167	9312	9456	9601	9745		5-72
06	9890	0034	0179	0323	0468	0612	0756	0901	1045	1190	144	6-87
07	478. 1334	1479	1623	1767	1912	2056	2201	2345	2490	2634		7-101
08	2778	2923	3067	3211	3356	3500	3644	3789	3933	4077		8-116
09	4222	4366	4510	4655	4799	4943	5088	5232	5376	5521		9-130
3010		5665	5809	5953	6098	6242	6386	6531	6675	6819		144
11	7108	7252	7396	7540	7684	7829	7973	8117	8261	8405		1-14
12	8550	8694	8838	8982	9126	9271	9415	9559	9703	9847		2-29
13	9991	0135	0280	0424	0568	0712	0856	1001	1144	1288		3-43
14	479. 1432	1577	1721	1865	2009	2153	2297	2441	2585	2729		4-58
15	2873	3017	3161	3305	3449	3593	3737	3881	4025	4169		5-72
16	4313	4457	4601	4745	4889	5033	5177	5321	5465	5609		6-86
17	5753	5897	6041	6185	6329	6473	6617	6761	6905	7048		7-101
18	7192	7336	7480	7624	7768	7912	8056	8200	8343	8487		8-116
19	8631	8775	8919	9063	9206	9350	9494	9638	9782	9926		9-130
3020	480. 0060	0213	0357	0501	0645	0788	0932	1076	1220	1363		
21	1507	1651	1795	1938	2082	2226	2370	2513	2657	2801		
22	2945	3088	3232	3376	3519	3663	3807	3950	4094	4238		
23	4381	4525	4669	4812	4956	5100	5243	5387	5531	5674		
24	5818	5961	6105	6249	6392	6536	6679	6823	6967	7110		
25	7254	7397	7541	7684	7828	7972	8115	8259	8402	8546		
26	8689	8833	8976	9120	9263	9407	9550	9694	9837	9981	143	
27	481. 0124	0268	0411	0555	0698	0841	0985	1128	1272	1415		
28	1559	1702	1846	1989	2132	2276	2419	2563	2706	2849		
29	2993	3136	3279	3423	3566	3710	3853	3996	4140	4283		
3030		4426	4570	4713	4856	5000	5143	5286	5429	5573		143
31	5859	6003	6146	6289	6432	6576	6719	6862	7005	7149		1-14
32	7292	7435	7578	7722	7865	8008	8151	8294	8438	8581		2-29
33	8724	8867	9010	9154	9297	9440	9583	9726	9869	0013		3-43
34	482. 0156	0299	0442	0585	0728	0871	1014	1158	1301	1444		4-57
35	1587	1730	1873	2016	2159	2302	2445	2588	2732	2875		5-71
36	3018	3161	3304	3447	3590	3733	3876	4019	4162	4305		6-86
37	4448	4591	4734	4877	5020	5163	5306	5449	5592	5735		7-100
38	5878	6021	6164	6306	6449	6592	6735	6878	7021	7164		8-114
39	7307	7450	7593	7736	7879	8021	8164	8307	8450	8593		9-129
3040		8736	8879	9021	9164	9307	9450	9593	9735	9879		
41	483. 0164	0307	0450	0593	0735	0878	1021	1164	1307	1449		
42	1592	1735	1878	2020	2163	2306	2449	2591	2734	2877		
43	3020	3162	3305	3448	3590	3733	3876	4018	4161	4304		
44	4446	4589	4732	4874	5017	5160	5302	5445	5588	5730		
45	5873	6016	6158	6301	6443	6586	6729	6871	7014	7156		
46	7299	7442	7584	7727	7869	8012	8154	8297	8439	8582		
47	8725	8867	9010	9152	9295	9437	9580	9722	9865	0007		
48	484. 0150	0292	0435	0577	0719	0862	1004	1147	1289	1432	142	
49	1574	1717	1859	2001	2144	2286	2429	2571	2714	2856		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 30500. L. 484

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
3050	484	2998	3141	3283	3425	3568	3710	3853	3995	4137	4280	142	142
51		4422	4564	4707	4849	4991	5134	5276	5418	5561	5703		1-14
52		5845	5988	6130	6272	6414	6557	6699	6841	6983	7126		2-28
53		7268	7410	7552	7695	7837	7979	8121	8264	8405	8548		3-43
54		8690	8832	8975	9117	9259	9401	9543	9686	9828	9970		4-57
55	485	0112	0254	0396	0539	0681	0823	0965	1107	1249	1391		5-71
56		1533	1676	1818	1960	2102	2244	2386	2528	2670	2812		6-85
57		2954	3096	3238	3381	3523	3665	3807	3949	4091	4233		7-99
58		4375	4517	4659	4801	4943	5085	5227	5369	5511	5653		8-114
59		5795	5937	6079	6221	6363	6505	6646	6788	6930	7072		9-128
3060		7214	7355	7498	7640	7782	7924	8066	8208	8349	8491		
61		8633	8775	8917	9059	9201	9343	9484	9626	9768	9910		
62	486	0052	0194	0335	0477	0619	0761	0903	1045	1186	1328		
63		1470	1612	1753	1895	2037	2179	2321	2462	2604	2746		
64		2888	3029	3171	3313	3454	3596	3738	3880	4021	4163		
65		4305	4446	4588	4730	4871	5013	5155	5296	5438	5580		
66		5722	5863	6005	6146	6288	6430	6571	6713	6854	6996		
67		7138	7279	7421	7562	7704	7846	7987	8129	8270	8412		
68		8554	8695	8837	8978	9120	9261	9403	9544	9686	9827		
69		9969	0110	0252	0393	0535	0676	0818	0959	1101	1242	141	
3070	487	1384	1525	1667	1808	1950	2091	2232	2374	2515	2657		141
71		2798	2940	3081	3222	3364	3505	3647	3788	3929	4071		1-14
72		4212	4353	4495	4636	4778	4919	5060	5202	5343	5484		2-28
73		5826	5967	6108	6250	6391	6532	6673	6815	6956	7097		3-42
74		7637	7778	7919	8060	8201	8342	8483	8624	8765	8906		4-56
75		8451	8592	8733	8875	9016	9157	9298	9440	9581	9722		5-78
76		9863	0004	0146	0287	0428	0569	0710	0851	0993	1134		6-85
77	488	1275	1416	1557	1698	1839	1981	2122	2263	2404	2545		7-99
78		2686	2827	2968	3109	3250	3392	3533	3674	3815	3956		8-113
79		4097	4238	4379	4520	4661	4802	4943	5084	5225	5366		9-127
3080		5507	5648	5789	5930	6071	6212	6353	6494	6635	6776		
81		6917	7058	7199	7340	7481	7622	7763	7904	8044	8185		
82		8326	8467	8608	8749	8890	9031	9172	9313	9453	9594		
83		9735	9876	0017	0158	0299	0439	0580	0721	0862	1003		
84	489	1144	1284	1425	1566	1707	1848	1988	2129	2270	2411		
85		2552	2692	2833	2974	3115	3255	3396	3537	3678	3818		
86		3759	4100	4241	4381	4522	4663	4803	4944	5085	5226		
87		5366	5507	5648	5788	5929	6070	6210	6351	6492	6632		
88		6773	6914	7054	7195	7335	7476	7617	7757	7898	8038		
89		8179	8320	8460	8601	8741	8882	9023	9163	9304	9444		
3090		9585	9725	9866	0006	0147	0287	0428	0568	0709	0849		140
91	490	0990	1131	1271	1411	1552	1692	1833	1973	2114	2254	140	1-14
92		2395	2535	2676	2816	2957	3097	3237	3378	3518	3659		2-28
93		3799	3940	4080	4220	4361	4501	4642	4782	4922	5063		3-42
94		5203	5343	5484	5624	5765	5905	6045	6185	6326	6466		4-56
95		6607	6747	6887	7027	7168	7308	7448	7589	7729	7869		5-70
96		8010	8150	8290	8430	8571	8711	8851	8991	9131	9272		6-84
97		9412	9552	9692	9833	9973	0113	0253	0394	0534	0674		7-98
98	491	0814	0954	1094	1235	1375	1515	1655	1795	1935	2076		8-112
99		2216	2356	2496	2636	2776	2916	3056	3197	3337	3477		9-126

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
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N. 31000. L. 491.										Logarithms	
Num	0	1	2	3	4	5	6	7	8	9	D Pts.
3100	491.3617	3757	3897	4037	4177	4317	4457	4597	4738	4878	140 140
01	5018	5158	5298	5438	5578	5718	5858	5998	6138	6278	1—14
02	6418	6558	6698	6838	6978	7118	7258	7398	7538	7678	2—28
03	7818	7958	8098	8238	8378	8517	8657	8797	8937	9077	3—42
04	9217	9357	9497	9637	9777	9917	0056	0196	0336	0476	4—56
05	492.0616	0756	0896	1036	1175	1315	1455	1595	1735	1875	5—70
06	2015	2154	2294	2434	2574	2714	2853	2993	3133	3273	6—84
07	3413	3552	3692	3832	3972	4111	4251	4391	4531	4670	7—98
08	4810	4950	5090	5229	5369	5509	5648	5788	5928	6067	8—112
09	6207	6347	6487	6626	6766	6906	7045	7185	7325	7464	9—126
3110	7604	7743	7883	8023	8162	8302	8442	8581	8721	8860	
11	9000	9140	9279	9419	9558	9698	9838	9977	0117	0256	
12	493.0395	0535	0675	0814	0954	1094	1233	1373	1512	1652	
13	1791	1931	2070	2210	2349	2489	2628	2768	2907	3047	139
14	3186	3325	3465	3604	3744	3883	4023	4162	4302	4441	
15	4581	4720	4859	4999	5138	5278	5417	5556	5696	5835	
16	5974	6114	6253	6393	6532	6671	6811	6950	7089	7228	
17	7368	7507	7647	7786	7925	8065	8204	8343	8482	8622	
18	8761	8900	9040	9179	9318	9457	9597	9736	9875	0014	
19	494.0154	0293	0432	0571	0711	0850	0989	1128	1267	1407	
3120	1546	1685	1824	1963	2103	2242	2381	2520	2659	2798	139
21	2938	3077	3216	3355	3494	3633	3772	3912	4051	4190	1—14
22	4329	4468	4607	4746	4885	5024	5164	5303	5442	5581	2—28
23	5720	5859	5998	6137	6276	6415	6554	6693	6832	6971	3—42
24	7110	7249	7388	7527	7666	7805	7944	8083	8222	8361	4—56
25	8500	8639	8778	8917	9056	9195	9334	9473	9612	9751	5—69
26	9890	0029	0168	0306	0445	0584	0723	0862	1001	1140	6—83
27	495.1279	1418	1557	1695	1834	1973	2112	2251	2390	2529	7—97
28	2667	2806	2945	3084	3223	3362	3500	3639	3778	3917	8—111
29	4056	4194	4333	4472	4611	4750	4888	5027	5166	5305	9—125
3130	5443	5582	5721	5860	5998	6137	6276	6414	6553	6692	
31	6831	6969	7108	7247	7385	7524	7663	7801	7940	8079	
32	8218	8356	8495	8633	8772	8911	9049	9188	9327	9465	
33	9604	9743	9881	0020	0158	0297	0436	0574	0713	0851	
34	496.0990	1128	1267	1406	1544	1683	1821	1960	2098	2237	
35	2375	2514	2652	2791	2929	3068	3207	3345	3484	3622	
36	3761	3899	4037	4176	4314	4453	4591	4730	4868	5007	138
37	5145	5284	5422	5560	5699	5837	5976	6114	6253	6391	
38	6529	6668	6806	6945	7083	7221	7360	7498	7636	7775	
39	7913	8051	8190	8328	8466	8605	8743	8881	9020	9158	
3140	9206	9345	9573	9711	9850	9988	0126	0264	0403	0541	138
41	497.0679	0818	0956	1094	1232	1371	1509	1647	1785	1924	1—14
42	2062	2200	2338	2476	2615	2753	2891	3029	3167	3306	2—28
43	3444	3582	3720	3858	3996	4135	4273	4411	4549	4687	3—42
44	4825	4963	5102	5240	5378	5516	5654	5792	5930	6068	4—56
45	6206	6345	6483	6621	6759	6897	7035	7173	7311	7449	5—69
46	7587	7725	7863	8001	8139	8277	8415	8553	8691	8829	6—83
47	8967	9105	9243	9381	9519	9657	9795	9933	0071	0209	7—97
48	498.0347	0485	0623	0761	0899	1037	1175	1313	1451	1589	8—110
49	1727	1864	2002	2140	2278	2416	2554	2692	2830	2968	9—124
Num	0	1	2	3	4	5	6	7	8	9	D Pro.

TO IOICOO.

N. 31500. L. 498

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3150	498	3106	3243	3381	3519	3657	3795	3933	4070	4208	4346	
51		4484	4622	4760	4897	5035	5173	5311	5449	5586	5724	
52		5862	6000	6138	6275	6413	6551	6689	6826	6964	7102	
53		7240	7377	7515	7653	7791	7928	8066	8204	8341	8479	
54		8617	8755	8892	9030	9168	9305	9443	9581	9718	9856	
55		9994	0131	0269	0407	0544	0682	0819	0957	1095	1232	
56	499	1370	1508	1645	1783	1920	2058	2195	2333	2471	2608	
57		2746	2883	3021	3158	3296	3434	3571	3709	3846	3984	
58		4121	4259	4396	4534	4671	4809	4946	5084	5221	5359	
59		5495	5634	5771	5909	6046	6184	6321	6458	6596	6733	137
3160		6871	7008	7146	7283	7420	7558	7695	7833	7970	8108	137
61		8245	8382	8520	8657	8794	8932	9069	9207	9344	9481	1-14
62		9619	9756	9893	0031	0168	0305	0443	0580	0717	0855	2-27
63	500	0992	1129	1266	1404	1541	1678	1816	1953	2090	2227	3-41
64		2365	2502	2639	2776	2914	3051	3188	3325	3463	3600	4-55
65		3737	3874	4012	4149	4286	4423	4560	4698	4835	4972	5-68
66		5109	5246	5383	5521	5658	5795	5932	6069	6206	6343	6-82
67		6481	6618	6755	6892	7029	7166	7303	7440	7577	7715	7-96
68		7852	7989	8126	8263	8400	8537	8674	8811	8948	9085	8-110
69		9222	9359	9496	9633	9770	9908	0045	0182	0319	0456	9-123
3170	501	0593	0730	0867	1004	1141	1278	1415	1551	1688	1825	
71		1962	2099	2236	2373	2510	2647	2784	2921	3058	3195	
72		3332	3469	3606	3742	3879	4016	4153	4290	4427	4564	
73		4701	4838	4974	5111	5248	5385	5522	5659	5795	5932	
74		6069	6206	6343	6480	6616	6753	6890	7027	7164	7300	
75		7437	7574	7711	7848	7984	8121	8258	8395	8531	8668	
76		8805	8942	9078	9215	9352	9489	9625	9762	9899	0035	
77	502	0172	0309	0445	0582	0719	0856	0992	1129	1266	1402	
78		1539	1676	1812	1949	2085	2222	2359	2495	2632	2769	
79		2905	3042	3178	3315	3452	3588	3725	3861	3998	4135	
3180		4271	4408	4544	4681	4817	4954	5090	5227	5364	5500	
81		5537	5673	5810	5946	6083	6219	6356	6492	6629	6765	
82		7002	7138	7275	7411	7548	7684	7821	7957	8093	8230	136
83		8366	8503	8639	8776	8912	9048	9185	9321	9458	9594	
84		9731	9867	0003	0140	0276	0412	0549	0685	0822	0958	
85	403	1094	1231	1367	1503	1640	1776	1912	2049	2185	2321	
86		2458	2594	2730	2867	3003	3139	3275	3412	3548	3684	
87		3821	3957	4093	4229	4366	4502	4638	4774	4911	5047	
88		5183	5319	5455	5592	5728	5864	6000	6137	6273	6409	
89		6545	6681	6818	6954	7090	7226	7362	7498	7634	7771	
3190		7907	8043	8179	8315	8451	8587	8724	8860	8996	9132	13
91		9268	9404	9540	9676	9812	9948	0085	0221	0357	0493	1-1
92	504	0629	0765	0901	1037	1173	1309	1445	1581	1717	1853	2-2
93		1989	2125	2261	2397	2533	2669	2805	2941	3077	3213	3-4
94		3349	3485	3621	3757	3893	4029	4165	4301	4437	4573	4-5
95		4709	4845	4980	5116	5252	5388	5524	5660	5796	5932	5-6
96		6068	6204	6339	6475	6611	6747	6883	7019	7155	7290	6-8
97		7426	7562	7698	7834	7970	8105	8241	8377	8513	8649	7-9
98		8785	8920	9056	9192	9328	9464	9599	9735	9871	0007	8-10
99	505	0142	0278	0414	0550	0685	0821	0957	1093	1228	1364	9-12
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D Pts.
3200	505.1500	1635	1771	1907	2043	2178	2314	2450	2585	2721	136
01	2857	2992	3128	3264	3399	3535	3671	3806	3942	4078	1-14
02	4213	4349	4484	4620	4756	4891	5027	5163	5298	5434	2-27
03	5569	5705	5841	5976	6112	6247	6383	6518	6654	6789	3-41
04	6925	7051	7196	7332	7467	7603	7738	7874	8009	8145	4-54
05	8280	8416	8551	8687	8822	8958	9093	9229	9364	9500	135
06	9635	9771	9906	0042	0177	0312	0448	0583	0719	0854	6-82
07	506.0990	1125	1260	1396	1531	1667	1802	1937	2073	2208	7-95
08	2344	2479	2614	2750	2885	3020	3156	3291	3426	3562	8-109
09	3697	3832	3968	4103	4238	4374	4509	4644	4780	4915	9-122
3210	5050	5186	5321	5456	5591	5727	5862	5997	6132	6268	135
11	6403	6538	6674	6809	6944	7079	7214	7350	7485	7620	1-13
12	7755	7891	8026	8161	8296	8431	8567	8702	8837	8972	2-27
13	9107	9242	9378	9513	9648	9783	9918	0053	0188	0324	3-40
14	507.0459	0594	0729	0864	0999	1134	1269	1404	1540	1675	4-54
15	1810	1945	2080	2215	2350	2485	2620	2755	2890	3025	5-67
16	3160	3295	3430	3565	3700	3836	3971	4106	4241	4376	6-81
17	4511	4646	4781	4916	5051	5186	5320	5455	5590	5725	7-94
18	5860	5995	6130	6265	6400	6535	6670	6805	6940	7075	8-108
19	7210	7345	7480	7614	7749	7884	8019	8154	8289	8424	9-121
3220	8559	8694	8828	8963	9098	9233	9368	9503	9638	9772	
21	9907	0042	0177	0312	0446	0581	0716	0851	0986	1121	
22	508.1255	1390	1525	1660	1794	1929	2064	2199	2334	2468	
23	2603	2738	2873	3007	3142	3277	3411	3546	3681	3816	
24	3950	4085	4220	4354	4489	4624	4758	4893	5028	5162	
25	5297	5432	5566	5701	5836	5970	6105	6240	6374	6509	
26	6644	6778	6913	7047	7182	7317	7451	7586	7720	7855	
27	7990	8124	8259	8393	8528	8662	8797	8932	9066	9201	
28	9335	9470	9604	9739	9873	0008	0142	0277	0411	0545	
29	509.0680	0815	0949	1084	1218	1353	1487	1622	1756	1891	134
3230	2025	2160	2294	2429	2563	2697	2832	2966	3101	3235	
31	3370	3504	3638	3773	3907	4042	4176	4310	4445	4579	
32	4714	4848	4982	5117	5251	5385	5520	5654	5788	5923	
33	6057	6191	6326	6460	6594	6729	6863	6997	7132	7266	
34	7400	7534	7669	7803	7937	8072	8206	8340	8474	8609	
35	8743	8877	9011	9146	9280	9414	9548	9682	9817	9951	
36	510.0085	0219	0353	0488	0622	0756	0890	1024	1159	1293	
37	1427	1561	1695	1829	1964	2098	2232	2366	2500	2634	
38	2768	2903	3037	3171	3305	3439	3573	3707	3841	3975	
39	4109	4243	4378	4512	4646	4780	4914	5048	5182	5316	
3240	5450	5584	5718	5852	5986	6120	6254	6388	6522	6656	134
41	6790	6924	7058	7192	7326	7460	7594	7728	7862	7996	1-13
42	8130	8264	8398	8532	8666	8800	8934	9068	9202	9335	2-27
43	9469	9603	9737	9871	0005	0139	0273	0407	0541	0674	3-40
44	511.0808	0942	1076	1210	1344	1478	1612	1745	1879	2013	4-54
45	2147	2281	2415	2548	2682	2816	2950	3084	3217	3351	5-67
46	3485	3619	3753	3886	4020	4154	4288	4422	4555	4689	6-80
47	4823	4957	5090	5224	5358	5491	5625	5759	5893	6026	7-94
48	6160	6294	6428	6561	6695	6829	6962	7096	7230	7363	8-107
49	7497	7631	7764	7898	8032	8165	8299	8433	8566	8700	9-121
Num	0	1	2	3	4	5	6	7	8	9	D Pro.

TO 101000.

N. 32500. L. 511.

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
3250	511.883	8967	9101	9234	9368	9502	9635	9769	9902	0036	134	
51	512.0170	0303	0437	0570	0704	0837	0971	1105	1238	1372		
52	1505	1639	1772	1906	2039	2173	2306	2440	2574	2707		
53	2841	2974	3108	3241	3375	3508	3641	3775	3908	4042	133	
54	4175	4309	4442	4576	4709	4843	4976	5110	5243	5376		
55	5510	5643	5777	5910	6044	6177	6310	6444	6577	6711		
56	6844	6977	7111	7244	7377	7511	7644	7777	7911	8044		
57	8178	8311	8444	8578	8711	8844	8978	9111	9244	9377		
58	9511	9644	9777	9911	0044	0177	0310	0444	0577	0710		
59	513.0844	0977	1110	1243	1377	1510	1643	1776	1910	2043		
3260	2170	2309	2442	2576	2709	2842	2975	3108	3242	3375	133	
61	3508	3641	3774	3907	4041	4174	4307	4440	4573	4706	1-13	
62	4840	4973	5106	5239	5372	5505	5638	5771	5904	6038	2-27	
63	6171	6304	6437	6570	6703	6836	6969	7102	7235	7368	3-40	
64	7502	7635	7768	7901	8034	8167	8300	8433	8566	8699	4-53	
65	8832	8965	9098	9231	9364	9497	9630	9763	9896	0029	5-66	
66	514.0162	0295	0428	0561	0694	0827	0960	1092	1225	1358	6-80	
67	1491	1624	1757	1890	2023	2156	2289	2422	2555	2688	7-93	
68	2820	2953	3086	3219	3352	3485	3618	3751	3883	4016	8-106	
69	4149	4282	4415	4548	4681	4813	4946	5079	5212	5345	9-120	
3270	5478	5610	5743	5876	6009	6141	6274	6407	6540	6673		
71	6805	6938	7071	7204	7336	7469	7602	7735	7867	8000		
72	8133	8266	8398	8531	8664	8797	8929	9062	9195	9327		
73	9460	9593	9725	9858	9991	0123	0256	0389	0521	0654		
74	515.0787	0919	1052	1185	1317	1450	1583	1715	1848	1980		
75	2113	2246	2378	2511	2643	2776	2909	3041	3174	3306		
76	3439	3571	3704	3837	3969	4102	4234	4367	4499	4632		
77	4764	4897	5029	5162	5294	5427	5559	5692	5824	5957		
78	6089	6222	6354	6487	6619	6752	6884	7017	7149	7282	132	
79	7414	7547	7679	7811	7944	8076	8209	8341	8474	8606		
3280	8738	8871	9003	9136	9268	9400	9533	9665	9798	9930	132	
81	516.0062	0195	0327	0459	0592	0724	0856	0989	1121	1253	1-13	
82	1386	1518	1650	1783	1915	2047	2180	2312	2444	2576	2-26	
83	2709	2841	2973	3106	3238	3370	3502	3635	3767	3899	3-40	
84	4031	4164	4296	4428	4560	4693	4825	4957	5089	5221	4-53	
85	5354	5486	5618	5750	5882	6015	6147	6279	6411	6543	5-66	
86	6676	6808	6940	7072	7204	7336	7468	7601	7733	7865	6-79	
87	7997	8129	8261	8393	8525	8658	8790	8922	9054	9186	7-92	
88	9318	9450	9582	9714	9846	9978	0110	0243	0375	0507	8-106	
89	517.0639	0771	0903	1035	1167	1299	1431	1563	1695	1827	9-119	
3290	1952	2091	2223	2355	2487	2619	2751	2883	3015	3147		
91	3279	3411	3543	3675	3807	3939	4070	4202	4334	4466		
92	4598	4730	4862	4994	5126	5258	5390	5522	5653	5785		
93	5917	6049	6181	6313	6445	6577	6708	6841	6972	7104		
94	7236	7368	7500	7631	7763	7895	8027	8159	8291	8422		
95	8554	8686	8818	8950	9081	9213	9345	9477	9608	9740		
96	9872	0004	0136	0267	0399	0531	0662	0794	0926	1058		
97	518.1189	1321	1453	1585	1716	1848	1980	2111	2243	2375		
98	2507	2638	2770	2901	3033	3165	3296	3428	3560	3691		
99	3823	3955	4086	4218	4350	4481	4613	4745	4876	5008		
Num	0	1	2	4	3	5	6	7	8	9	D	Pro.

N. 33000. L. 518.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
3300	518	5139	5271	5403	5534	5666	5797	5929	6060	6192	6324	132	132
01		6455	6587	6718	6850	6981	7113	7245	7376	7508	7639		1-13
02		7771	7902	8034	8165	8297	8428	8560	8691	8823	8954		2-26
03		9086	9217	9349	9480	9612	9743	9875	0.005	0137	0269	131	3-40
04	519.0407	0532	0663	0795	0926	1058	1189	1320	1452	1583			4-53
05		1715	1846	1977	2109	2240	2372	2503	2634	2766	2897		5-66
06		3028	3160	3291	3423	3554	3685	3817	3948	4079	4211		6-79
07		4342	4474	4605	4736	4867	4998	5130	5261	5392	5524		7-92
08		5655	5786	5918	6049	6180	6311	6443	6574	6705	6836		8-106
09		6968	7099	7230	7361	7492	7624	7755	7886	8017	8149		9-119
3310		8280	8411	8542	8673	8805	8936	9067	9198	9329	9461		131
11		9592	9723	9854	9985	0116	0248	0379	0510	0641	0772		1-13
12	520.0903	1034	1165	1297	1428	1559	1690	1821	1952	2083			2-26
13		2214	2345	2476	2608	2739	2870	3001	3132	3263	3394		3-39
14		3525	3656	3787	3918	4049	4180	4311	4442	4573	4704		4-52
15		4835	4966	5097	5228	5359	5490	5621	5752	5883	6014		5-65
16		6145	6276	6407	6538	6669	6800	6931	7062	7193	7324		6-79
17		7455	7586	7717	7847	7978	8109	8240	8371	8502	8633		7-92
18		8764	8895	9026	9156	9287	9418	9549	9680	9811	9942		8-106
19	521.0073	0203	0334	0465	0596	0727	0858	0988	1119	1250			9-118
3320		1381	1512	1642	1773	1904	2035	2166	2296	2427	2558		
21		2685	2819	2950	3081	3212	3343	3473	3604	3735	3865		
22		3996	4127	4258	4388	4519	4650	4781	4911	5042	5173		
23		5303	5434	5565	5695	5826	5957	6087	6218	6349	6479		
24		6610	6741	6871	7002	7133	7263	7394	7525	7655	7786		
25		7916	8047	8178	8308	8439	8569	8700	8831	8961	9092		
26		9222	9353	9484	9614	9745	9875	0006	0136	0267	0397		
27	522.0528	0658	0789	0920	1050	1181	1311	1442	1572	1703			
28		1833	1964	2094	2225	2355	2486	2616	2747	2877	3007	130	
29		3138	3268	3399	3529	3660	3790	3921	4051	4181	4312		
3330		4442	4573	4703	4834	4964	5094	5225	5355	5486	5616		130
31		5746	5877	6007	6137	6268	6398	6528	6659	6789	6920		1-13
32		7059	7180	7311	7441	7571	7702	7832	7962	8092	8223		2-26
33		8353	8483	8614	8744	8874	9005	9135	9265	9395	9526		3-39
34		9655	9786	9916	0047	0177	0307	0437	0568	0698	0828		4-52
35	523.0958	1089	1219	1349	1479	1609	1740	1870	2000	2130			5-65
36		2260	2391	2521	2651	2781	2911	3041	3172	3302	3432		6-78
37		3562	3692	3822	3952	4083	4213	4343	4473	4603	4733		7-91
38		4863	4993	5123	5254	5384	5514	5644	5774	5904	6034		8-104
39		6164	6294	6424	6554	6684	6814	6944	7075	7205	7335		9-117
3340		7465	7595	7725	7855	7985	8115	8245	8375	8505	8635		
41		8765	8895	9025	9155	9285	9415	9545	9675	9805	9934		
42	524.0061	0194	0324	0454	0584	0714	0844	0974	1104	1234			
43		1354	1494	1624	1753	1883	2013	2143	2273	2403	2533		
44		2663	2793	2922	3052	3182	3312	3442	3572	3701	3831		
45		3961	4091	4221	4351	4480	4610	4740	4870	5000	5130		
46		5259	5389	5519	5649	5778	5908	6038	6168	6298	6427		
47		6557	6687	6817	6946	7076	7206	7336	7465	7595	7725		
48		7854	7984	8114	8244	8373	8503	8633	8762	8892	9022		
49		9151	9281	9411	9540	9670	9800	9929	0059	0189	0318		
Num	0	1	2	3	4	5	7	7	8	9	D	Pro.	

10 101000.

N. 33500. L. 525

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3350	525	0448	0578	0707	0837	0967	1096	1226	1355	1485	1615	130
51	1744	1874	2003	2133	2263	2392	2522	2651	2781	2910		
52	3040	3170	3299	3429	3558	3688	3817	3947	4076	4206		
53	4336	4465	4595	4724	4854	4983	5113	5242	5372	5501		
54	5631	5760	5889	6019	6148	6278	6407	6537	6666	6796	129	
55	6925	7055	7184	7314	7443	7572	7702	7831	7961	8090		
56	8220	8349	8478	8608	8737	8866	8996	9125	9255	9384		
57	9513	9643	9772	9901	0031	0160	0290	0419	0548	0678		
58	526	0807	0936	1066	1195	1324	1453	1583	1712	1841	1971	
59	2100	2229	2359	2488	2617	2746	2876	3005	3134	3263		
3360	3393	3522	3651	3780	3910	4039	4168	4297	4427	4556		129
61	4685	4814	4943	5073	5202	5331	5460	5589	5719	5848	1-13	
62	5977	6106	6235	6365	6494	6623	6752	6881	7010	7139	2-20	
63	7269	7398	7527	7656	7785	7914	8043	8173	8302	8431	3-39	
64	8560	8689	8818	8947	9076	9205	9334	9463	9593	9722	4-52	
65	9851	9980	0109	0238	0367	0496	0625	0754	0883	1012	5-64	
66	527	1141	1270	1399	1528	1657	1786	1915	2044	2173	6-77	
67	2431	2560	2689	2818	2947	3076	3205	3334	3463	3592	7-90	
68	3721	3850	3979	4108	4237	4366	4494	4623	4752	4881	8-103	
69	5010	5139	5268	5397	5526	5655	5783	5912	6041	6170	9-116	
3370	6299	6428	6557	6686	6814	6943	7072	7201	7330	7459		
71	7588	7717	7846	7974	8103	8232	8360	8489	8618	8747		
72	8876	9004	9133	9262	9391	9520	9648	9777	9906	0035		
73	528	0163	0292	0421	0550	0678	0807	0935	1065	1193	1322	
74	1451	1579	1708	1837	1966	2094	2223	2352	2480	2609		
75	2738	2866	2995	3124	3252	3381	3510	3638	3767	3896		
76	4024	4153	4282	4410	4539	4667	4796	4925	5053	5182		
77	5311	5439	5568	5696	5825	5954	6082	6211	6339	6468		
78	6596	6725	6854	6982	7111	7239	7368	7496	7625	7753		
79	7882	8010	8139	8267	8396	8524	8653	8781	8910	9038		
3380	9167	9295	9424	9552	9681	9809	9938	0066	0195	0323	128	
81	529	0452	0580	0709	0837	0965	1094	1222	1351	1479	1608	
82	1736	1864	1993	2121	2250	2378	2506	2635	2763	2892		
83	3020	3148	3277	3405	3533	3662	3790	3918	4046	4175		
84	4304	4432	4560	4688	4817	4945	5073	5202	5330	5458		
85	5587	5715	5843	5972	6100	6228	6356	6485	6613	6741		
86	6870	6998	7126	7254	7383	7511	7639	7767	7895	8024		
87	8152	8280	8408	8537	8665	8793	8921	9049	9178	9306		
88	9434	9562	9690	9818	9947	0075	0203	0331	0459	0587		
89	530	0716	0844	0972	1100	1228	1356	1484	1613	1741	1869	
3390	1997	2125	2253	2381	2509	2637	2765	2894	3022	3150		128
91	3278	3406	3534	3662	3790	3918	4046	4174	4302	4430	1-13	
92	4558	4686	4814	4942	5070	5199	5327	5455	5583	5711	2-26	
93	5839	5967	6095	6223	6351	6478	6606	6734	6862	6990	3-38	
94	7118	7246	7374	7502	7630	7758	7886	8014	8142	8270	4-51	
95	8398	8526	8654	8781	8909	9037	9165	9293	9421	9549	5-64	
96	9677	9805	9933	0060	0188	0316	0444	0572	0700	0828	6-77	
97	531	0955	1083	1211	1339	1467	1595	1722	1850	1978	7-90	
98	2234	2361	2489	2617	2745	2873	3000	3128	3256	3384	8-102	
99	3512	3639	3767	3895	4023	4150	4278	4405	4534	4661	9-115	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.34000. L. 531.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3400	531.4789	4917	5045	5172	5300	5428	5555	5683	5811	5939	128	128
01	6066	6194	6322	6449	6577	6705	6832	6960	7088	7215		1-13
02	7343	7471	7598	7726	7854	7981	8109	8237	8364	8492		2-26
03	8619	8747	8875	9002	9130	9257	9385	9513	9640	9768		3-38
04	9896	0023	0151	0278	0405	0533	0661	0788	0916	1044		4-51
05	532.1171	1299	1426	1554	1681	1809	1936	2064	2191	2319		5-64
06	2445	2574	2701	2829	2956	3084	3211	3339	3466	3594	127	6-77
07	3721	3849	3976	4104	4231	4359	4486	4613	4741	4868		7-90
08	4996	5123	5251	5378	5506	5633	5760	5888	6015	6143		8-102
09	6270	6397	6525	6652	6780	6907	7034	7162	7289	7416		9-115
3410	7544	7671	7798	7926	8053	8180	8308	8435	8562	8690		127
11	8817	8944	9072	9199	9326	9454	9581	9708	9836	9963		1-13
12	533.0090	0217	0345	0472	0599	0727	0854	0981	1108	1236		2-25
13	1363	1490	1617	1745	1872	1999	2126	2253	2381	2508		3-38
14	2635	2762	2890	3017	3144	3271	3398	3525	3653	3780		4-51
15	3907	4034	4161	4289	4416	4543	4670	4797	4924	5051		5-63
16	5179	5306	5433	5560	5687	5814	5941	6068	6196	6323		6-76
17	6450	6577	6704	6831	6958	7085	7212	7339	7466	7593		7-89
18	7721	7848	7975	8102	8229	8356	8483	8610	8737	8864		8-102
19	8991	9118	9245	9372	9499	9626	9753	9880	0007	0134		9-114
3420	534.0261	0388	0515	0642	0769	0896	1023	1150	1277	1404		
21	1531	1658	1785	1912	2038	2165	2292	2419	2546	2673		
22	2800	2927	3054	3181	3308	3435	3561	3688	3815	3942		
23	4069	4196	4323	4450	4576	4703	4830	4957	5084	5211		
24	5338	5464	5591	5718	5845	5972	6098	6225	6352	6479		
25	6606	6733	6859	6986	7113	7240	7366	7493	7620	7757		
26	7874	8000	8127	8254	8381	8507	8634	8761	8888	9014		
27	9141	9268	9394	9521	9648	9775	9901	0028	0155	0281		
28	535.0408	0535	0661	0788	0915	1041	1168	1295	1421	1548		
29	1675	1801	1928	2055	2181	2308	2435	2561	2688	2815		
3430	2941	3068	3194	3321	3448	3574	3701	3827	3954	4081		
31	4207	4334	4460	4587	4713	4840	4967	5093	5220	5346		
32	547	5599	5726	5852	5979	6105	6232	6358	6485	6611		
33	6738	6864	6991	7117	7244	7370	7497	7623	7750	7876	126	
34	8073	8199	8325	8451	8579	8635	8762	8888	9014	9141		
35	9267	9394	9520	9647	9773	9899	0026	0152	0279	0405		
36	536.0532	0658	0784	0911	1037	1163	1290	1416	1543	1669		
37	1795	1922	2048	2174	2301	2427	2553	2680	2806	2932		
38	3059	3185	3311	3438	3564	3690	3817	3943	4069	4195		
39	4322	4448	4574	4701	4827	4953	5079	5206	5332	5458		
3440	5584	5711	5837	5963	6089	6216	6342	6468	6594	6720		126
41	6847	6973	7099	7225	7352	7478	7604	7730	7856	7982		1-13
42	8109	8235	8361	8487	8613	8739	8865	8992	9118	9244		2-25
43	9370	9496	9622	9749	9875	0001	0127	0253	0379	0505		3-38
44	537.0631	0757	0884	1010	1136	1262	1388	1514	1640	1765		4-50
45	1892	2018	2144	2270	2396	2522	2649	2775	2901	3027		5-63
46	3153	3279	3405	3531	3657	3783	3909	4035	4161	4287		6-76
47	4413	4539	4665	4791	4917	5043	5169	5295	5421	5547		7-88
48	5673	5798	5924	6050	6176	6302	6428	6554	6680	6806		8-101
49	6932	7058	7184	7310	7436	7561	7687	7813	7939	8065		9-113
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 34500. L. 537

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3450	537	8191	8317	8443	8569	8694	8820	8946	9072	9198	9324	125
51		9450	9575	9701	9827	9953	0079	0205	0330	0456	0582	
52	538	0708	0834	0959	1085	1211	1337	1463	1588	1714	1840	
53		1966	2091	2217	2343	2469	2595	2720	2846	2972	3097	
54		3223	3349	3475	3600	3726	3852	3978	4103	4229	4355	
55		4481	4606	4732	4858	4983	5109	5235	5360	5486	5612	
56		5737	5863	5989	6114	6240	6366	6491	6617	6742	6868	
57		6994	7119	7245	7371	7496	7622	7747	7873	7999	8124	
58		8250	8375	8501	8627	8752	8878	9003	9129	9254	9380	
59		9506	9631	9757	9882	0008	0133	0259	0384	0510	0635	
3460	539	0761	0886	1012	1137	1263	1388	1514	1639	1765	1890	
61		2016	2141	2267	2392	2518	2643	2769	2894	3020	3145	125
62		3271	3396	3521	3647	3772	3898	4023	4149	4274	4399	
63		4525	4650	4776	4901	5026	5152	5277	5403	5528	5653	
64		5779	5904	6029	6155	6280	6406	6531	6656	6782	6907	
65		7033	7158	7283	7408	7534	7659	7784	7910	8035	8160	
66		8286	8411	8536	8661	8787	8912	9037	9163	9288	9413	
67		9538	9664	9789	9914	0039	0165	0290	0415	0540	0666	
68	540	0721	0916	1041	1166	1292	1417	1542	1667	1793	1918	
69		2043	2168	2293	2418	2544	2669	2794	2919	3044	3169	
3470		3295	3420	3545	3670	3795	3920	4046	4171	4296	4421	125
71		4546	4671	4796	4921	5046	5172	5297	5422	5547	5672	1-12
72		5797	5922	6047	6172	6297	6422	6548	6673	6798	6923	2-25
73		7048	7173	7298	7423	7548	7673	7798	7923	8048	8173	3-37
74		8298	8423	8548	8673	8798	8923	9048	9173	9298	9423	4-50
75		9548	9673	9798	9923	0048	0173	0298	0423	0548	0673	5-62
76	541	0798	0923	1048	1172	1297	1422	1547	1672	1797	1922	6-75
77		2047	2172	2297	2422	2546	2671	2796	2921	3046	3171	7-87
78		3296	3421	3545	3670	3795	3920	4045	4170	4295	4419	8-100
79		4544	4669	4794	4919	5044	5168	5293	5418	5543	5668	9-112
3480		5792	5917	6042	6167	6292	6416	6541	6666	6791	6915	
81		7040	7165	7290	7414	7539	7664	7789	7913	8038	8163	
82		8288	8412	8537	8662	8786	8911	9036	9161	9285	9410	
83		9535	9659	9784	9909	0033	0158	0283	0407	0532	0657	
84	542	0781	0906	1031	1155	1280	1405	1529	1654	1779	1903	
85		2028	2152	2277	2402	2526	2651	2775	2900	3025	3149	
86		3274	3398	3523	3648	3772	3897	4021	4146	4270	4395	
87		4519	4644	4769	4893	5018	5142	5267	5391	5516	5640	
88		5765	5889	6014	6138	6263	6387	6512	6636	6761	6885	124
89		7010	7134	7259	7383	7508	7632	7756	7881	8005	8130	
3490		8254	8379	8503	8628	8752	8876	9001	9125	9250	9374	124
91		9498	9623	9747	9872	9996	0120	0245	0369	0494	0618	1-12
92	543	0742	0867	0991	1115	1240	1364	1488	1613	1737	1861	2-25
93		1986	2110	2234	2359	2483	2607	2732	2856	2980	3105	3-37
94		3229	3353	3478	3602	3726	3850	3975	4099	4223	4347	4-50
95		4472	4596	4720	4845	4969	5093	5217	5342	5466	5590	5-62
96		5714	5838	5963	6087	6211	6335	6459	6584	6708	6832	6-74
97		6956	7080	7205	7329	7453	7577	7701	7825	7950	8074	7-87
98		8198	8322	8446	8570	8695	8819	8943	9067	9191	9315	8-99
99		9439	9563	9688	9812	9936	0060	0184	0308	0432	0556	9-112

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
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Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3500	544	0680	0804	0929	1053	1177	1301	1425	1549	1673	1797	124
01		1921	2045	2169	2293	2417	2541	2665	2789	2913	3037	1-12
02		3161	3285	3409	3533	3657	3781	3905	4029	4153	4277	2-25
03		4401	4525	4649	4773	4897	5021	5145	5269	5393	5517	3-37
04		5641	5765	5889	6013	6137	6261	6385	6508	6632	6756	4-50
05		6880	7004	7128	7252	7376	7500	7624	7747	7871	7995	5-62
06		8119	8243	8367	8491	8615	8738	8862	8986	9110	9234	6-74
07		9358	9481	9605	9729	9853	9977	0101	0224	0348	0472	7-87
08	545	0596	0720	0843	0967	1091	1215	1339	1462	1586	1710	8-99
09		1834	1957	2081	2205	2329	2452	2576	2700	2824	2947	9-112
3510		3071	3195	3319	3442	3566	3690	3813	3937	4061	4185	
11		4308	4432	4556	4679	4803	4927	5050	5174	5298	5421	
12		5545	5669	5792	5916	6040	6163	6287	6411	6534	6658	
13		6781	6905	7029	7152	7276	7400	7523	7647	7770	7894	
14		8018	8141	8265	8388	8512	8635	8759	8883	9006	9130	
15		9253	9377	9500	9624	9747	9871	9995	0118	0242	0365	
16	546	0489	0612	0736	0859	0983	1106	1230	1353	1477	1600	
17		1724	1847	1971	2094	2218	2341	2464	2588	2711	2835	123
18		2958	3082	3205	3329	3452	3576	3699	3822	3946	4069	
19		4193	4316	4439	4563	4686	4810	4933	5056	5180	5303	
3520		5427	5550	5673	5797	5920	6043	6167	6290	6414	6537	123
21		6660	6784	6907	7030	7154	7277	7400	7524	7647	7770	1-12
22		7894	8017	8140	8263	8387	8510	8633	8756	8880	9003	2-25
23		9126	9250	9373	9496	9619	9743	9866	9989	0112	0236	3-37
24	547	0359	0482	0605	0729	0852	0975	1098	1222	1345	1468	4-49
25		1591	1714	1838	1961	2084	2207	2330	2454	2577	2700	5-61
26		2823	2946	3069	3193	3316	3439	3562	3685	3808	3931	6-74
27		4055	4178	4301	4424	4547	4670	4793	4916	5040	5163	7-86
28		5286	5409	5532	5655	5778	5901	6024	6147	6270	6393	8-98
29		6517	6640	6763	6886	7009	7132	7255	7378	7501	7624	9-111
3530		7747	7870	7993	8116	8239	8362	8485	8608	8731	8854	
31		8977	9100	9223	9346	9469	9592	9715	9838	9961	0084	
32	548	0207	0330	0453	0576	0699	0822	0945	1068	1190	1313	
33		1436	1559	1682	1805	1928	2051	2174	2297	2420	2543	
34		2665	2788	2911	3034	3157	3280	3403	3526	3648	3771	
35		3894	4017	4140	4263	4386	4508	4631	4754	4877	5000	
36		5123	5245	5368	5491	5614	5737	5859	5982	6105	6228	
37		6351	6473	6596	6719	6842	6964	7087	7210	7333	7455	
38		7578	7701	7824	7946	8069	8192	8315	8437	8560	8683	
39		8806	8928	9051	9174	9296	9419	9542	9665	9787	9910	
3540	549	0033	0155	0278	0401	0523	0646	0769	0891	1014	1137	
41		1259	1382	1505	1627	1750	1872	1995	2118	2240	2363	
42		2486	2608	2731	2853	2976	3099	3221	3344	3466	3589	
43		3712	3834	3957	4079	4202	4324	4447	4569	4692	4815	
44		4937	5060	5182	5305	5427	5550	5672	5795	5917	6040	
45		6162	6285	6407	6530	6652	6775	6897	7020	7142	7265	122
46		7387	7510	7632	7755	7877	8000	8122	8244	8367	8489	
47		8612	8734	8857	8979	9102	9224	9346	9469	9591	9714	
48		9836	9958	0081	0203	0326	0448	0570	0693	0815	0938	
49	550	1060	1182	1305	1427	1549	1672	1794	1916	2039	2161	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 35500. L. 550.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3550	550.2284	2406	2528	2650	2773	2895	3017	3140	3262	3384	122	122
51	3507	3629	3751	3874	3996	4118	4240	4363	4485	4607		1-12
52	4730	4852	4974	5096	5219	5341	5463	5585	5708	5830		2-24
53	5952	6074	6196	6319	6441	6563	6685	6808	6930	7052		3-37
54	7174	7296	7419	7541	7663	7785	7907	8029	8152	8274		4-49
55	8396	8518	8640	8762	8885	9007	9129	9251	9373	9495		5-61
56	9618	9740	9862	9984	0106	0228	0350	0472	0594	0717		6-73
57	551.0839	0961	1083	1205	1327	1449	1571	1693	1815	1937		7-85
58	2059	2181	2304	2426	2548	2670	2792	2914	3036	3158		8-98
59	3280	3402	3524	3646	3768	3890	4012	4134	4256	4378		9-110
3560	4500	4622	4744	4866	4988	5110	5232	5354	5476	5598		
61	5720	5842	5964	6086	6207	6329	6451	6573	6695	6817		
62	6939	7061	7183	7305	7427	7549	7671	7792	7914	8036		
63	8158	8280	8402	8524	8646	8768	8889	9011	9133	9255		
64	9377	9499	9621	9742	9864	9986	0108	0230	0352	0473		
65	552.0595	0717	0839	0961	1083	1204	1326	1448	1570	1692		
66	1813	1935	2057	2179	2300	2422	2544	2666	2788	2909		
67	3031	3153	3275	3396	3518	3640	3762	3883	4005	4127		
68	4248	4370	4492	4614	4735	4857	4979	5100	5222	5344		
69	5465	5587	5709	5830	5952	6074	6195	6317	6439	6560		
3570	6682	6804	6925	7047	7169	7290	7412	7534	7655	7777		
71	7899	8020	8142	8263	8385	8506	8628	8750	8871	8993		
72	9115	9236	9358	9479	9601	9722	9844	9965	0087	0209		
73	553.0330	0452	0573	0695	0816	0938	1059	1181	1302	1424		
74	1545	1667	1788	1910	2031	2153	2274	2396	2517	2639	121	
75	2760	2882	3003	3124	3246	3368	3489	3611	3732	3854		
76	3975	4096	4218	4339	4461	4582	4704	4825	4947	5068		
77	5189	5311	5432	5554	5675	5796	5918	6039	6161	6282		
78	6403	6525	6646	6767	6889	7010	7132	7253	7374	7496		
79	7617	7738	7860	7981	8102	8224	8345	8466	8588	8709		
3580	8830	8952	9073	9194	9315	9437	9558	9679	9801	9922		121
81	554.0043	0164	0286	0407	0528	0650	0771	0892	1013	1135		1-12
82	1256	1377	1498	1619	1741	1862	1983	2104	2226	2347		2-24
83	2468	2589	2710	2832	2953	3074	3195	3316	3438	3559		3-36
84	3680	3801	3922	4043	4165	4286	4407	4528	4649	4770		4-48
85	4892	5013	5134	5255	5376	5497	5618	5739	5861	5982		5-60
86	6103	6224	6345	6466	6587	6708	6829	6950	7071	7193		6-73
87	7314	7435	7556	7677	7798	7919	8040	8161	8282	8403		7-85
88	8524	8645	8766	8887	9008	9129	9250	9371	9493	9614		8-97
89	9735	9856	9977	0098	0219	0340	0461	0582	0702	0823		9-109
3590	555.0944	1065	1186	1307	1428	1549	1670	1791	1912	2033		
91	2154	2275	2396	2517	2638	2759	2880	3000	3121	3242		
92	3363	3484	3605	3726	3847	3968	4089	4209	4330	4451		
93	4572	4693	4814	4935	5056	5176	5297	5418	5539	5660		
94	5781	5902	6022	6143	6264	6385	6506	6626	6747	6868		
95	6989	7110	7231	7351	7472	7593	7714	7834	7955	8076		
96	8197	8318	8438	8559	8680	8801	8921	9042	9163	9284		
97	9404	9525	9645	9767	9887	0008	0129	0249	0370	0491		
98	556.0612	0732	0853	0974	1094	1215	1336	1456	1577	1698		
99	1818	1939	2060	2180	2301	2422	2542	2663	2784	2904		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 36000. L. 556.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3600	556.3025	3145	3266	3387	3507	3628	3749	3869	3990	4111	121	121
01	4231	4352	4472	4593	4714	4834	4955	5075	5196	5316		1-12
02	5437	5558	5678	5799	5919	6040	6161	6281	6401	6522		2-24
03	6643	6763	6884	7004	7125	7245	7366	7486	7607	7727		3-36
04	7848	7968	8089	8209	8330	8450	8571	8691	8812	8932	120	4-48
05	9053	9173	9294	9414	9534	9655	9775	9896	0016	0137		5-60
06	557.0257	0378	0498	0618	0739	0859	0980	1100	1221	1341		6-72
07	1461	1582	1702	1823	1943	2063	2184	2304	2424	2545		7-84
08	2665	2786	2905	3026	3147	3267	3387	3508	3628	3748		8-97
09	3869	3989	4109	4230	4350	4470	4591	4711	4831	4952		9-109
3610	5072	5192	5313	5434	5553	5673	5794	5914	6034	6155		
11	6275	6395	6515	6636	6756	6876	6996	7117	7237	7357		
12	7477	7598	7718	7838	7958	8079	8199	8319	8439	8559		
13	8680	8800	8920	9040	9160	9281	9401	9521	9641	9761		
14	9881	0002	0122	0242	0362	0482	0602	0723	0843	0963		
15	558.1083	1203	1323	1443	1563	1684	1804	1924	2044	2164		
16	2284	2404	2524	2644	2765	2885	3005	3125	3245	3365		
17	3485	3605	3725	3845	3965	4085	4205	4325	4445	4566		
18	4686	4806	4926	5046	5166	5286	5406	5526	5646	5766		
19	5866	6006	6126	6246	6366	6486	6606	6726	6846	6966		
3620	7086	7206	7326	7446	7566	7685	7805	7925	8045	8165		120
21	8285	8405	8525	8645	8765	8885	9005	9125	9245	9364		1-12
22	9484	9604	9724	9844	9964	0084	0204	0324	0443	0563		2-24
23	559.0683	0803	0923	1043	1163	1283	1402	1522	1642	1762		3-36
24	1882	2002	2121	2241	2361	2481	2601	2721	2840	2960		4-48
25	3080	3200	3320	3439	3559	3679	3799	3919	4038	4158		5-60
26	4278	4398	4517	4637	4757	4877	4996	5116	5236	5356		6-72
27	5476	5595	5715	5835	5954	6074	6194	6314	6433	6553		7-84
28	6673	6792	6912	7032	7151	7271	7391	7511	7630	7750		8-96
29	7870	7989	8109	8229	8348	8468	8588	8707	8827	8947		9-108
3630	9066	9186	9305	9425	9545	9664	9784	9904	0023	0143		
31	560.0262	0382	0502	0621	0741	0860	0980	1100	1219	1339		
32	1458	1578	1697	1817	1937	2056	2176	2295	2415	2534		
33	2654	2773	2893	3012	3132	3252	3371	3491	3610	3730		
34	3849	3969	4088	4208	4327	4447	4566	4686	4805	4925	119	
35	5044	5164	5283	5402	5522	5641	5761	5880	6000	6119		
36	6239	6358	6478	6597	6716	6836	6955	7075	7194	7313		
37	7433	7552	7672	7791	7911	8030	8149	8269	8388	8507		
38	8627	8746	8866	8985	9104	9224	9343	9462	9582	9701		
39	9821	9940	0059	0178	0298	0417	0536	0656	0775	0894		
3640	561.1014	1133	1252	1372	1491	1610	1730	1849	1968	2087		119
41	2207	2326	2445	2565	2684	2803	2922	3042	3161	3280		1-12
42	3399	3519	3638	3757	3876	3996	4115	4234	4353	4472		2-24
43	4592	4711	4830	4949	5068	5188	5307	5426	5545	5664		3-36
44	5754	5873	6002	6141	6260	6379	6499	6618	6737	6856		4-48
45	6975	7094	7214	7333	7451	7571	7690	7809	7928	8047		5-59
46	8167	8286	8405	8524	8643	8762	8881	9000	9119	9238		6-71
47	9358	9477	9596	9715	9834	9953	0072	0191	0310	0429		7-83
48	562.0548	0667	0786	0905	1024	1143	1262	1381	1500	1620		8-95
49	1739	1858	1977	2096	2215	2334	2453	2572	2691	2810		9-107
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to IOICCO.

N. 36500. L. 562

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3650	562	2929	3048	3167	3285	3405	3523	3642	3761	3880	3999	119
51	4118	4237	4356	4475	4594	4713	4832	4951	5070	5189		
52	5308	5427	5545	5664	5783	5902	6021	6140	6259	6378		
53	6497	6616	6734	6853	6972	7091	7210	7329	7448	7566		
54	7685	7804	7923	8042	8161	8280	8398	8517	8636	8755		
55	8874	8993	9111	9230	9349	9468	9587	9705	9824	9943		
56	563	0062	0181	0299	0418	0537	0656	0774	0893	1012	1131	
57	1250	1368	1487	1606	1725	1843	1962	2081	2199	2318		
58	2437	2556	2674	2793	2912	3030	3149	3268	3387	3505		
59	3624	3743	3861	3980	4099	4217	4336	4455	4573	4692		
60	4811	4929	5048	5167	5285	5404	5523	5641	5760	5879		
61	5997	6116	6234	6353	6472	6590	6709	6828	6946	7065		
62	7183	7302	7420	7539	7658	7776	7895	8013	8132	8251		
63	8369	8488	8606	8725	8843	8962	9080	9199	9317	9436		
64	9555	9673	9792	9910	0029	0147	0266	0384	0503	0621		
65	564	0740	0858	0977	1095	1214	1332	1451	1569	1688	1806	118
66	1925	2043	2161	2280	2398	2517	2635	2754	2872	2991		
67	3109	3227	3346	3464	3583	3701	3820	3938	4056	4175		
68	4293	4412	4530	4648	4767	4885	5004	5122	5240	5359		
69	5477	5595	5714	5832	5951	6069	6187	6306	6424	6542		
70	6661	6779	6897	7016	7134	7252	7371	7489	7607	7725		118
71	7844	7962	8080	8199	8317	8435	8554	8672	8790	8908		1-12
72	9027	9145	9263	9381	9500	9618	9736	9855	9973	0091		2-24
73	565	0209	0327	0446	0564	0682	0800	0919	1037	1155	1273	3-35
74	1392	1510	1628	1746	1864	1982	2101	2219	2337	2455		4-47
75	2573	2692	2810	2928	3046	3164	3282	3401	3519	3637		5-59
76	3755	3873	3991	4110	4228	4346	4464	4582	4700	4818		6-71
77	4936	5054	5172	5291	5409	5527	5645	5763	5881	5999		7-83
78	6117	6235	6353	6471	6589	6708	6826	6944	7062	7180		8-94
79	7298	7416	7534	7652	7770	7888	8006	8124	8242	8360		9-106
80	8478	8596	8714	8832	8950	9068	9186	9304	9422	9540		
81	9658	9776	9894	0012	0130	0248	0366	0484	0602	0720		
82	566	0838	0956	1074	1192	1310	1428	1545	1663	1781	1899	
83	2017	2135	2253	2371	2489	2607	2725	2842	2960	3078		
84	3196	3314	3432	3550	3668	3786	3903	4021	4139	4257		
85	4375	4493	4611	4728	4846	4964	5082	5200	5318	5435		
86	5553	5671	5789	5907	6025	6142	6260	6378	6496	6614		
87	6731	6849	6967	7085	7202	7320	7438	7556	7674	7791		
88	7909	8027	8145	8262	8380	8498	8616	8733	8851	8969		
89	9087	9204	9322	9440	9557	9675	9793	9911	0028	0146		
90	567	0264	0381	0499	0617	0734	0852	0970	1087	1205	1323	117
91	1440	1558	1676	1793	1911	2029	2146	2264	2382	2499		1-12
92	2617	2735	2852	2970	3087	3205	3323	3440	3558	3675		2-23
93	3793	3911	4028	4146	4263	4381	4499	4616	4734	4851		3-35
94	4969	5086	5204	5322	5439	5557	5674	5792	5909	6027		4-47
95	6144	6262	6379	6497	6614	6732	6850	6967	7085	7202	117	5-58
96	7320	7437	7555	7672	7790	7907	8025	8142	8260	8377		6-70
97	8495	8612	8729	8847	8964	9082	9199	9317	9434	9552		7-82
98	9669	9786	9904	0021	0139	0256	0374	0491	0608	0726		8-94
99	568	0843	0961	1078	1195	1313	1430	1548	1665	1782	1900	9-105

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
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N. 37000: L. 568.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3700	568.2017	2135	2252	2369	2487	2604	2721	2839	2956	3073	117	117
01	3191	3308	3425	3543	3660	3777	3895	4012	4129	4247		1-12
02	4364	4481	4599	4716	4833	4951	5068	5185	5303	5420		2-23
03	5537	5654	5772	5889	6006	6123	6241	6358	6475	6592		3-35
04	6710	6827	6944	7061	7179	7295	7413	7530	7648	7765		4-47
05	7882	7999	8117	8234	8351	8468	8585	8703	8820	8937		5-58
06	9054	9171	9288	9405	9523	9640	9757	9874	9991	0109		6-70
07	569.0226	0343	0460	0577	0694	0812	0929	1046	1163	1280		7-82
08	1397	1514	1631	1749	1866	1983	2100	2217	2334	2451		8-94
09	2568	2615	2802	2920	3037	3154	3271	3388	3505	3622		9-105
3710	3739	3856	3973	4090	4207	4324	4441	4558	4675	4792		
11	4910	5027	5144	5261	5378	5495	5612	5729	5846	5963		
12	6080	6197	6314	6431	6548	6665	6782	6899	7016	7132		
13	7249	7366	7483	7600	7717	7834	7951	8068	8185	8302		
14	8419	8536	8653	8770	8887	9004	9120	9237	9354	9471		
15	9588	9705	9822	9939	0056	0173	0289	0406	0523	0640		
16	570.0757	0874	0991	1108	1224	1341	1458	1575	1692	1809		
17	1926	2042	2159	2276	2393	2510	2627	2743	2860	2977		
18	3094	3211	3327	3444	3561	3678	3795	3911	4028	4145		
19	4262	4379	4495	4612	4729	4846	4962	5079	5196	5313		
3720	5429	5545	5663	5780	5896	6013	6130	6246	6363	6480		
21	6597	6713	6830	6947	7063	7180	7297	7414	7530	7647		
22	7764	7880	7997	8114	8230	8347	8464	8580	8697	8814		
23	8930	9047	9164	9280	9397	9514	9630	9747	9863	9980		
24	571.0097	0213	0330	0447	0563	0680	0795	0913	1030	1146		
25	1263	1379	1496	1612	1729	1846	1962	2079	2195	2312		
26	2429	2545	2662	2778	2895	3011	3128	3244	3361	3477		
27	3594	3710	3827	3943	4050	4176	4293	4409	4526	4642		
28	4759	4875	4992	5108	5225	5341	5458	5574	5691	5807	116	
29	5924	6040	6157	6273	6390	6506	6623	6739	6855	6972		
3730	7088	7205	7321	7438	7554	7670	7787	7903	8020	8136		116
31	8252	8369	8485	8602	8718	8834	8951	9067	9184	9300		1-12
32	9416	9533	9649	9765	9882	9998	0114	0231	0347	0464		2-23
33	572.0580	0696	0813	0929	1045	1162	1278	1394	1510	1627		3-35
34	1743	1859	1976	2092	2208	2325	2441	2557	2673	2790		4-46
35	2906	3022	3139	3255	3371	3487	3604	3720	3836	3952		5-58
36	4069	4185	4301	4417	4534	4650	4766	4882	4998	5115		6-70
37	5231	5347	5463	5580	5696	5812	5928	6044	6161	6277		7-81
38	6393	6509	6625	6741	6858	6974	7090	7206	7322	7438		8-93
39	7555	7671	7787	7903	8019	8135	8251	8368	8484	8600		9-104
3740	8716	8832	8948	9064	9180	9297	9413	9529	9645	9761		
41	9877	9993	0109	0225	0341	0457	0574	0690	0806	0922		
42	573.1038	1154	1270	1386	1502	1618	1734	1850	1966	2082		
43	2198	2314	2430	2546	2662	2778	2894	3010	3126	3242		
44	3358	3474	3590	3706	3822	3938	4054	4170	4286	4402		
45	4518	4634	4750	4866	4982	5098	5214	5330	5446	5562		
46	5678	5794	5910	6025	6141	6257	6373	6489	6605	6721		
47	6837	6953	7069	7185	7300	7416	7532	7648	7764	7880		
48	7996	8112	8228	8343	8459	8575	8691	8807	8923	9039		
49	9154	9270	9386	9502	9618	9734	9849	9965	0081	0197		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 37500. L. 574.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3750	574	0313	0428	0544	0660	0776	0892	1007	1123	1239	1355	
51		1471	1586	1702	1818	1934	2049	2165	2281	2397	2512	
52		2628	2744	2860	2975	3091	3207	3323	3438	3554	3670	
53		3786	3901	4017	4133	4248	4364	4480	4596	4711	4827	
54		4943	5058	5174	5290	5405	5521	5637	5752	5868	5984	
55		6099	6215	6331	6446	6562	6678	6793	6909	7025	7140	
56		7256	7371	7487	7603	7718	7834	7949	8065	8181	8296	
57		8412	8527	8643	8759	8874	8990	9105	9221	9337	9452	
58		9568	9683	9799	9914	0030	0145	0261	0377	0492	0607	
59	575	0723	0839	0954	1070	1185	1301	1416	1532	1647	1763	
3760		1878	1994	2109	2225	2340	2456	2571	2687	2802	2918	115
61		3033	3149	3264	3380	3495	3611	3726	3842	3957	4072	
62		4188	4303	4419	4534	4650	4765	4880	4996	5111	5227	
63		5342	5458	5573	5688	5804	5919	6035	6150	6265	6381	
64		6496	6611	6727	6842	6958	7073	7188	7304	7419	7534	
65		7650	7765	7880	7996	8111	8226	8342	8457	8572	8688	
66		8803	8918	9034	9149	9264	9380	9495	9610	9726	9841	
67		9956	0071	0187	0302	0417	0533	0648	0763	0878	0994	
68	576	1109	1224	1339	1455	1570	1685	1800	1916	2031	2146	
69		2261	2377	2492	2607	2722	2837	2953	3068	3183	3298	
3770		3414	3529	3644	3759	3874	3989	4105	4220	4335	4450	115
71		4565	4680	4796	4911	5026	5141	5256	5371	5487	5602	1-11
72		5717	5832	5947	6062	6177	6292	6408	6523	6638	6753	2-23
73		6868	6983	7098	7213	7328	7443	7559	7674	7789	7904	3-34
74		8019	8134	8249	8364	8479	8594	8709	8824	8939	9054	4-46
75		9170	9285	9400	9515	9630	9745	9860	9975	0090	0205	5-57
76	577	0320	0435	0550	0665	0780	0895	1010	1125	1240	1355	6-69
77		1470	1585	1700	1815	1930	2045	2160	2275	2390	2505	7-80
78		2620	2734	2849	2964	3079	3194	3309	3424	3539	3654	8-92
79		3769	3884	3999	4114	4229	4343	4458	4573	4688	4803	9-103
3780		4918	5033	5148	5263	5377	5492	5607	5722	5837	5952	
81		6057	6182	6296	6411	6526	6641	6756	6871	6986	7100	
82		7215	7330	7445	7560	7674	7789	7904	8019	8134	8249	
83		8363	8478	8593	8708	8823	8937	9052	9167	9282	9396	
84		9511	9626	9741	9856	9970	0085	0200	0315	0429	0544	
85	578	0659	0774	0888	1003	1118	1232	1347	1462	1577	1691	
86		1806	1921	2035	2150	2265	2380	2494	2609	2724	2838	
87		2953	3068	3182	3297	3412	3526	3641	3756	3870	3985	
88		4100	4214	4329	4444	4558	4673	4787	4902	5017	5131	
89		5246	5361	5475	5590	5704	5819	5934	6048	6163	6277	
3790		6392	6507	6621	6736	6850	6965	7080	7194	7309	7423	114
91		7538	7652	7767	7881	7996	8111	8225	8340	8454	8569	1-11
92		8683	8798	8912	9027	9141	9256	9370	9485	9599	9714	2-23
93		9828	9943	0057	0172	0286	0401	0515	0630	0744	0859	3-34
94	579	0973	1088	1202	1317	1431	1546	1660	1774	1889	2003	4-46
95		2118	2232	2347	2461	2575	2690	2804	2919	3033	3148	5-57
96		3262	3376	3491	3605	3720	3834	3948	4063	4177	4292	6-68
97		4406	4520	4635	4749	4863	4978	5092	5206	5321	5435	7-80
98		5550	5664	5778	5893	6007	6121	6236	6350	6464	6579	8-91
99		6693	6807	6922	7036	7150	7264	7379	7493	7607	7722	9-103
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 38000. L. 579.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3800	579.7836	7950	8064	8179	8293	8407	8522	8636	8750	8864	114	114
01	8979	9093	9207	9321	9436	9550	9664	9778	9893	0007		1-11
02	580.0121	0235	0350	0464	0578	0692	0806	0921	1035	1149		2-23
03	1263	1377	1492	1606	1720	1834	1948	2063	2177	2291		3-34
04	2405	2519	2633	2748	2862	2976	3090	3204	3318	3432		4-46
05	3547	3661	3775	3889	4003	4117	4231	4345	4460	4574		5-57
06	4688	4802	4916	5030	5144	5258	5372	5486	5601	5715		6-58
07	5829	5943	6057	6171	6285	6399	6513	6627	6741	6855		7-80
08	6969	7083	7197	7311	7426	7540	7654	7768	7882	7996		8-91
09	8110	8224	8338	8452	8566	8680	8794	8908	9022	9136		9-102
3810	9250	9364	9478	9592	9706	9820	9934	0048	0162	0275		
11	581.0389	0503	0617	0731	0845	0959	1073	1187	1301	1415		
12	1529	1643	1757	1871	1985	2098	2212	2326	2440	2554		
13	2668	2782	2896	3010	3124	3237	3351	3465	3579	3693		
14	3807	3921	4035	4148	4262	4376	4490	4604	4718	4832		
15	4945	5059	5173	5287	5401	5515	5628	5742	5856	5970		
16	6084	6197	6311	6425	6539	6653	6766	6880	6994	7108		
17	7222	7335	7449	7563	7677	7790	7904	8018	8132	8245		
18	8359	8473	8587	8700	8814	8928	9042	9155	9269	9383		
19	9497	9610	9724	9838	9951	0065	0179	0292	0406	0520		
3820	582.0534	0747	0861	0975	1088	1202	1316	1429	1543	1657		
21	1770	1884	1998	2111	2225	2339	2452	2566	2680	2793		
22	2907	3020	3134	3248	3361	3475	3589	3702	3816	3929		
23	4043	4157	4270	4384	4497	4611	4724	4838	4952	5065		
24	5179	5292	5406	5519	5633	5747	5860	5974	6087	6201		
25	6314	6428	6541	6655	6768	6882	6996	7109	7223	7336		
26	7450	7563	7677	7790	7904	8017	8131	8244	8358	8471	113	
27	8585	8698	8812	8925	9038	9152	9265	9379	9492	9606		
28	9719	9833	9946	0060	0173	0285	0400	0513	0627	0740		
29	583.0854	0967	1080	1194	1307	1421	1534	1647	1761	1874		
3830	1988	2101	2214	2328	2441	2555	2668	2781	2895	3008		
31	3122	3235	3348	3462	3575	3688	3802	3915	4028	4142		
32	4255	4368	4482	4595	4708	4822	4935	5048	5162	5275		
33	5388	5501	5615	5728	5841	5955	6068	6181	6294	6408		
34	6521	6634	6748	6861	6974	7087	7201	7314	7427	7540		
35	7654	7767	7880	7993	8107	8220	8333	8446	8559	8673		
36	8786	8899	9012	9126	9239	9352	9465	9578	9692	9805		
37	9918	0031	0144	0257	0371	0484	0597	0710	0823	0936		
38	584.1050	1163	1276	1389	1502	1615	1729	1842	1955	2068		
39	2181	2294	2407	2520	2634	2747	2860	2973	3086	3199		
3840	3312	3425	3538	3651	3765	3878	3991	4104	4217	4330		113
41	4443	4556	4669	4782	4895	5008	5121	5234	5347	5461		1-11
42	5574	5687	5800	5913	6026	6139	6252	6365	6478	6591		2-22
43	6704	6817	6930	7043	7156	7269	7382	7495	7608	7721		3-34
44	7834	7947	8060	8173	8286	8399	8512	8625	8737	8850		4-45
45	8963	9076	9189	9302	9415	9528	9641	9754	9867	9980		5-56
46	585.0093	0206	0319	0431	0544	0657	0770	0883	0996	1109		6-58
47	1222	1335	1448	1560	1673	1786	1899	2012	2125	2238		7-79
48	2351	2463	2576	2689	2802	2915	3028	3141	3253	3366		8-90
49	3479	3592	3705	3818	3930	4043	4156	4269	4381	4494		9-102
Num	0	1	2	3	4	5	6	7	8	9	D	Prat

to 101000.

N. 38500. L. 585

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3850	585.4607	4720	4833	4946	5058	5171	5284	5397	5510	5622	113	
51	5735	5848	5961	6073	6186	6299	6412	6524	6637	6750		
52	6863	6975	7088	7201	7314	7425	7539	7652	7765	7877		
53	7990	8103	8215	8328	8441	8554	8666	8779	8892	9004		
54	9117	9230	9342	9455	9568	9680	9793	9905	0018	0131		
55	586.0244	0356	0469	0582	0694	0807	0920	1032	1145	1258		
56	1370	1483	1595	1708	1821	1933	2046	2159	2271	2384		
57	2496	2609	2722	2834	2947	3059	3172	3285	3397	3510		
58	3622	3735	3847	3960	4072	4185	4298	4410	4523	4635		
59	4748	4860	4973	5085	5198	5310	5423	5535	5648	5760		
3860	5873	5986	6098	6211	6323	6436	6548	6661	6773	6885	112	
61	6998	7110	7223	7335	7448	7560	7673	7785	7898	8010		
62	8123	8235	8348	8460	8572	8685	8797	8910	9022	9135		
63	9247	9359	9472	9584	9697	9809	9922	0034	0146	0259		
64	587.0371	0484	0596	0708	0821	0933	1045	1158	1270	1383		
65	1495	1607	1720	1832	1944	2057	2169	2281	2394	2506		
66	2618	2731	2843	2955	3068	3180	3292	3405	3517	3629		
67	3742	3854	3966	4079	4191	4303	4415	4528	4640	4752		
68	4865	4977	5089	5201	5314	5426	5538	5650	5763	5875		
69	5987	6099	6212	6324	6436	6548	6661	6773	6885	6997		
3870	7110	7222	7334	7446	7558	7671	7783	7895	8007	8119	112	
71	8232	8344	8456	8568	8680	8793	8905	9017	9129	9241	1-11	
72	9353	9466	9578	9690	9802	9914	0026	0139	0251	0363	2-22	
73	588.0475	0587	0699	0811	0923	1036	1148	1260	1372	1484	3-34	
74	1596	1708	1820	1932	2045	2157	2269	2381	2493	2605	4-45	
75	2717	2829	2941	3053	3165	3277	3389	3501	3614	3726	5-56	
76	3838	3950	4062	4174	4286	4398	4510	4622	4734	4846	6-67	
77	4958	5070	5182	5294	5406	5518	5630	5742	5854	5966	7-78	
78	6078	6190	6302	6414	6526	6638	6750	6862	6974	7086	8-90	
79	7198	7310	7422	7534	7646	7758	7869	7981	8093	8205	9-101	
3880	8317	8429	8541	8653	8765	8877	8989	9101	9213	9324		
81	9436	9548	9660	9772	9884	9996	0108	0220	0332	0443		
82	589.0555	0667	0779	0891	1003	1115	1226	1338	1450	1562		
83	1674	1786	1898	2009	2121	2233	2345	2457	2569	2680		
84	2792	2904	3016	3128	3239	3351	3463	3575	3687	3798		
85	3910	4022	4134	4246	4357	4469	4581	4693	4804	4916		
86	5028	5140	5251	5363	5475	5587	5698	5810	5922	6034		
87	6145	6257	6369	6481	6592	6704	6816	6927	7039	7151		
88	7263	7374	7486	7598	7709	7821	7933	8044	8156	8268		
89	8379	8491	8603	8714	8826	8938	9049	9161	9273	9384		
3890	9496	9608	9719	9831	9943	0054	0166	0277	0389	0501	111	
91	590.0612	0724	0835	0947	1059	1170	1282	1393	1505	1617	1-11	
92	1728	1840	1951	2063	2175	2286	2398	2509	2621	2732	2-22	
93	2844	2956	3067	3179	3290	3402	3513	3625	3736	3848	3-33	
94	3959	4071	4182	4294	4406	4517	4629	4740	4852	4963	4-44	
95	5075	5186	5298	5409	5521	5632	5744	5855	5966	6078	111	
96	6189	6301	6413	6524	6635	6747	6858	6970	7081	7193	5-55	
97	7304	7415	7527	7638	7750	7861	7973	8084	8196	8307	6-67	
98	8418	8530	8641	8753	8864	8975	9087	9198	9310	9421	7-78	
99	9532	9644	9755	9866	9978	0089	0201	0312	0423	0535	8-89	
											9-100	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 39000. L. 591.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3900	591.0646	0757	0869	0987	1091	1203	1314	1425	1537	1648	111	111
01	1760	1871	1982	2093	2205	2316	2427	2539	2650	2761		1-11
02	2873	2984	3095	3206	3318	3429	3540	3652	3763	3874		2-22
03	3986	4097	4208	4319	4431	4542	4653	4764	4876	4987		3-33
04	5098	5209	5321	5432	5543	5654	5765	5877	5988	6099		4-44
05	6210	6322	6433	6544	6655	6766	6878	6989	7100	7211		5-55
06	7322	7434	7545	7656	7767	7878	7989	8101	8212	8323		6-67
07	8434	8545	8656	8768	8879	8990	9101	9212	9323	9434		7-78
08	9546	9657	9768	9879	9990	0101	0212	0323	0434	0546		8-89
09	592.0657	0768	0879	0990	1101	1212	1323	1434	1545	1656		9-100
3910	1768	1879	1990	2101	2212	2323	2434	2545	2656	2767		
11	2878	2989	3100	3211	3322	3433	3544	3655	3766	3877		
12	3988	4099	4210	4321	4432	4543	4654	4765	4876	4987		
13	5098	5209	5320	5431	5542	5653	5764	5875	5986	6097		
14	6208	6319	6430	6541	6652	6763	6874	6985	7096	7207		
15	7318	7429	7539	7650	7761	7872	7983	8094	8205	8316		
16	8427	8538	8649	8759	8870	8981	9092	9203	9314	9425		
17	9536	9647	9757	9868	9979	0090	0201	0312	0423	0533		
18	593.0644	0755	0866	0977	1088	1198	1309	1420	1531	1642		
19	1753	1863	1974	2085	2196	2307	2417	2528	2639	2750		
3920	2861	2971	3082	3193	3304	3415	3525	3636	3747	3858		
21	3968	4079	4190	4301	4411	4522	4633	4744	4854	4965		
22	5076	5187	5297	5408	5519	5629	5740	5851	5962	6072		
23	6183	6294	6404	6515	6626	6737	6847	6958	7069	7179		
24	7290	7401	7511	7622	7733	7843	7954	8065	8175	8286		
25	8397	8507	8618	8728	8839	8950	9060	9171	9282	9392		
26	9503	9614	9724	9835	9945	0056	0167	0277	0388	0498		
27	594.0609	0720	0830	0949	1051	1162	1272	1383	1494	1604		
28	1715	1825	1936	2046	2157	2268	2378	2489	2599	2710		
29	2820	2931	3041	3152	3262	3373	3483	3594	3704	3815		
3930	3926	4036	4146	4257	4367	4478	4588	4699	4809	4920	110	
31	5030	5141	5251	5362	5472	5583	5693	5804	5914	6025		
32	6135	6245	6356	6466	6577	6687	6798	6908	7019	7129		
33	7239	7350	7460	7571	7681	7791	7902	8012	8123	8233		
34	8344	8454	8564	8675	8785	8895	9006	9116	9227	9337		
35	9447	9558	9668	9778	9889	9999	0109	0220	0330	0441		
36	595.0551	0661	0772	0882	0992	1103	1213	1323	1433	1544		
37	1654	1764	1875	1985	2095	2206	2316	2426	2536	2647		
38	2757	2867	2978	3088	3198	3308	3419	3529	3639	3749		
39	3860	3970	4080	4191	4301	4411	4521	4631	4742	4852		
3940	4962	5072	5183	5293	5403	5513	5623	5734	5844	5954		110
41	6064	6174	6285	6395	6505	6615	6725	6836	6946	7056		1-11
42	7166	7276	7386	7497	7607	7717	7827	7937	8047	8158		2-22
43	8268	8378	8488	8598	8708	8818	8929	9039	9149	9259		3-33
44	9369	9479	9589	9699	9809	9920	0030	0140	0250	0360		4-44
45	596.0470	0580	0690	0800	0910	1020	1130	1241	1351	1461		5-55
46	1571	1681	1791	1901	2011	2121	2231	2341	2451	2561		6-66
47	2671	2781	2891	3001	3111	3221	3331	3441	3551	3661		7-77
48	3771	3881	3991	4101	4211	4321	4431	4541	4651	4761		8-88
49	4871	4981	5091	5201	5311	5421	5531	5641	5751	5861		9-99
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 39500. L. 596

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
3950	596	5971	6081	6191	6301	6411	6521	6631	6740	6850	6960	112
51	7070	7180	7290	7400	7510	7620	7730	7840	7950	8059		
52	8169	8279	8389	8499	8609	8719	8829	8938	9048	9158		
53	9268	9378	9488	9598	9708	9817	9927	0037	0147	0257		
54	597	0367	0476	0586	0696	0806	0916	1026	1135	1245	1355	
55	1465	1575	1684	1794	1904	2014	2124	2233	2343	2453		
56	2563	2673	2782	2892	3002	3112	3221	3331	3441	3551		
57	3661	3770	3880	3990	4099	4209	4319	4429	4538	4648		
58	4758	4868	4977	5087	5197	5306	5416	5526	5636	5745		
59	5855	5965	6074	6184	6294	6403	6513	6623	6732	6842		
3960	6952	7061	7171	7281	7390	7500	7610	7719	7829	7939		
61	8048	8158	8268	8377	8487	8597	8706	8816	8925	9035		
62	9145	9254	9364	9473	9583	9693	9802	9912	0021	0131		
63	598	0241	0350	0460	0569	0679	0789	0898	1008	1117	1227	
64	1336	1446	1556	1665	1775	1884	1994	2103	2213	2322		
65	2432	2541	2651	2760	2870	2979	3089	3199	3308	3418		
66	3527	3637	3746	3856	3965	4075	4184	4294	4403	4512	109	
67	4622	4731	4841	4950	5060	5169	5279	5388	5498	5607		
68	5717	5826	5935	6045	6154	6264	6373	6483	6592	6702		
69	6811	6920	7030	7139	7249	7358	7467	7577	7686	7796		
3970	7905	8014	8124	8233	8343	8452	8561	8671	8780	8889		
71	8999	9108	9218	9327	9436	9546	9655	9764	9874	9983		
72	599	0092	0202	0311	0420	0530	0639	0748	0858	0967	1076	
73	1186	1295	1404	1514	1623	1732	1841	1951	2060	2169		
74	2279	2388	2497	2606	2716	2825	2934	3043	3153	3262		
75	3371	3481	3590	3699	3808	3918	4027	4136	4245	4354		
76	4464	4573	4682	4791	4901	5010	5119	5228	5337	5447		
77	5556	5665	5774	5883	5993	6102	6211	6320	6429	6539		
78	6648	6757	6866	6975	7084	7194	7303	7412	7521	7630		
79	7739	7848	7958	8067	8176	8285	8394	8503	8612	8722		
3980	8831	8940	9049	9158	9267	9376	9485	9594	9704	9813	109	
81	9922	0031	0140	0249	0358	0467	0576	0685	0794	0903	1-11	
82	600	1013	1122	1231	1340	1449	1558	1667	1776	1885	1994	2-22
83	2103	2212	2321	2430	2539	2648	2757	2866	2975	3084	3-33	
84	3193	3302	3411	3520	3629	3738	3847	3956	4065	4174	4-44	
85	4283	4392	4501	4610	4719	4828	4937	5046	5155	5264	5-54	
86	5373	5482	5591	5700	5809	5918	6027	6136	6244	6353	6-65	
87	6462	6571	6680	6789	6898	7007	7116	7225	7334	7443	7-76	
88	7551	7660	7769	7878	7987	8096	8205	8313	8423	8531	8-87	
89	8640	8749	8858	8967	9076	9185	9293	9402	9511	9620	9-98	
3990	9729	9838	9947	0055	0164	0273	0382	0491	0600	0708		
91	601	0817	0926	1035	1144	1252	1361	1470	1579	1688	1796	
92	1905	2014	2123	2232	2340	2449	2558	2667	2776	2884		
93	2993	3102	3211	3319	3428	3537	3646	3754	3863	3972		
94	4081	4189	4298	4407	4515	4624	4733	4842	4950	5059		
95	5168	5276	5385	5494	5603	5711	5820	5929	6037	6146		
96	6255	6363	6472	6581	6689	6798	6907	7015	7124	7233		
98	7341	7450	7559	7667	7776	7885	7993	8102	8211	8319		
97	8428	8536	8645	8754	8862	8971	9080	9188	9297	9405		
99	9514	9623	9731	9840	9948	0057	0166	0274	0383	0491		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.40000. L.602.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4000	602.0600	0708	0817	0926	1034	1143	1251	1360	1468	1577	109	109
01	1686	1794	1903	2011	2120	2228	2337	2445	2554	2662	1-11	
02	2771	2879	2988	3096	3205	3313	3422	3530	3639	3747	2-22	
03	3856	3964	4073	4181	4290	4398	4507	4615	4724	4832	108	3-33
04	4941	5049	5158	5266	5374	5483	5591	5700	5808	5917	4-44	
05	6025	6134	6242	6350	6459	6567	6676	6784	6893	7001	5-54	
06	7109	7218	7326	7435	7543	7651	7760	7868	7977	8085	6-65	
07	8193	8302	8410	8519	8627	8735	8844	8952	9060	9169	7-76	
08	9277	9385	9494	9602	9710	9819	9927	0036	0144	0252	8-87	
09	603.0361	0469	0577	0685	0794	0902	1010	1119	1227	1335	9-98	
4010	1441	1552	1660	1769	1877	1985	2093	2202	2310	2418		
11	2527	2635	2743	2851	2960	3068	3176	3284	3393	3501		
12	3609	3717	3826	3934	4042	4150	4259	4367	4475	4583		
13	4692	4800	4908	5016	5124	5233	5341	5449	5557	5665		
14	5774	5882	5990	6098	6206	6315	6423	6531	6639	6747		
15	6855	6964	7072	7180	7288	7396	7504	7613	7721	7829		
16	7937	8045	8153	8261	8370	8478	8586	8694	8802	8910		
17	9018	9126	9234	9343	9451	9559	9667	9775	9883	9991		
18	604.0099	0207	0315	0424	0532	0640	0748	0856	0964	1072		
19	1180	1288	1396	1504	1612	1720	1828	1936	2044	2152		
4020	2261	2369	2477	2585	2693	2801	2909	3017	3125	3233		108
21	3341	3449	3557	3665	3773	3881	3989	4097	4205	4313		1-11
22	4421	4529	4637	4744	4852	4960	5068	5176	5284	5392		2-22
23	5500	5608	5716	5824	5932	6040	6148	6256	6364	6472		3-32
24	6580	6688	6795	6903	7011	7119	7227	7335	7443	7551		4-43
25	7659	7767	7875	7982	8090	8198	8306	8414	8522	8630		5-54
26	8738	8845	8953	9061	9169	9277	9385	9493	9601	9708		6-65
27	9816	9924	0032	0140	0248	0355	0463	0571	0679	0787		7-76
28	605.0895	1002	1110	1218	1326	1434	1541	1649	1757	1865		8-86
29	1973	2080	2188	2296	2404	2512	2619	2727	2835	2943		9-97
4030	3050	3158	3266	3374	3481	3589	3697	3805	3912	4020		
31	4128	4236	4343	4451	4559	4667	4774	4882	4990	5098		
32	5205	5313	5421	5528	5636	5744	5851	5959	6067	6174		
33	6282	6390	6498	6605	6713	6821	6928	7036	7144	7251		
34	7359	7467	7574	7682	7789	7897	8005	8112	8220	8328		
35	8435	8543	8651	8758	8865	8973	9081	9189	9296	9404		
36	9512	9619	9727	9834	9942	0050	0157	0265	0372	0480		
37	606.0587	0695	0803	0910	1018	1125	1233	1340	1448	1556		
38	1663	1771	1878	1986	2093	2201	2308	2416	2523	2631		
39	2739	2846	2953	3061	3169	3276	3384	3491	3599	3706		
4040	3814	3921	4029	4126	4244	4351	4459	4566	4673	4781	107	
41	4889	4995	5103	5211	5318	5426	5533	5641	5748	5856		
42	5963	6070	6178	6285	6393	6500	6608	6715	6823	6930		
43	7037	7145	7252	7360	7467	7574	7682	7789	7897	8004		
44	8111	8219	8326	8434	8541	8648	8756	8863	8970	9078		
45	9185	9293	9400	9507	9615	9722	9829	9937	0044	0151		
46	607.0259	0366	0473	0581	0688	0795	0903	1910	1117	1225		
47	1332	1439	1547	1654	1761	1869	1976	2083	2190	2298		
48	2405	2512	2620	2727	2834	2941	3049	3156	3263	3370		
49	3478	3585	3692	3799	3907	4014	4121	4228	4336	4443		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

10 101000.

N. 40500. L. 607

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4050	607.4550	4657	4765	4872	4979	5086	5194	5301	5408	5515	107	
51	5622	5730	5837	5944	6051	6158	6266	6373	6480	6587		
52	6694	6801	6909	7016	7123	7230	7337	7445	7552	7659		
53	7766	7873	7980	8087	8195	8302	8409	8516	8623	8730		
54	8837	8945	9052	9159	9265	9373	9480	9587	9694	9801		
55	9909	0016	0123	0230	0337	0444	0551	0658	0765	0872		
56	608.0979	1086	1194	1301	1408	1515	1622	1729	1836	1943		
57	2050	2157	2264	2371	2478	2585	2692	2799	2906	3013		
58	3120	3227	3334	3441	3548	3655	3762	3869	3976	4083		
59	4191	4297	4404	4511	4618	4725	4832	4939	5046	5153		
4060	5260	5367	5474	5581	5688	5795	5902	6009	6116	6223		107
61	6330	6437	6544	6651	6758	6865	6971	7078	7185	7292		1-11
62	7399	7506	7613	7720	7827	7934	8041	8147	8254	8361		2-21
63	8468	8575	8682	8789	8896	9003	9109	9216	9323	9430		3-32
64	9537	9644	9751	9858	9964	0071	0178	0285	0392	0499		4-43
65	609.0505	0712	0819	0926	1033	1140	1246	1353	1460	1567		5-53
66	1674	1781	1887	1994	2101	2208	2315	2421	2528	2635		6-64
67	2742	2848	2955	3062	3169	3276	3382	3489	3596	3703		7-75
68	3809	3916	4023	4130	4236	4343	4450	4557	4663	4770		8-86
69	4877	4984	5090	5197	5304	5410	5517	5624	5731	5837		9-96
4070	5944	6051	6157	6264	6371	6478	6584	6691	6798	6904		
71	7011	7118	7224	7331	7438	7544	7651	7758	7864	7971		
72	8078	8184	8291	8398	8504	8611	8718	8824	8931	9037		
73	9144	9251	9357	9464	9571	9677	9784	9890	9997	0104		
74	610.0210	0317	0423	0530	0637	0743	0850	0956	1063	1170		
75	1276	1383	1489	1596	1702	1809	1915	2022	2129	2235		
76	2342	2448	2555	2661	2768	2874	2981	3087	3194	3301		
77	3407	3514	3620	3727	3833	3940	4046	4153	4259	4366		
78	4472	4579	4685	4792	4898	5005	5111	5218	5324	5431	106	
79	5537	5643	5750	5856	5963	6069	6176	6282	6389	6495		
4080	6602	6708	6814	6921	7027	7134	7240	7347	7453	7559		
81	7666	7772	7879	7985	8092	8198	8304	8411	8517	8624		
82	8730	8836	8943	9049	9156	9262	9368	9475	9581	9687		
83	9794	9900	0006	0113	0219	0326	0432	0538	0645	0751		
84	611.0857	0964	1070	1176	1283	1389	1495	1602	1708	1814		
85	1921	2027	2133	2239	2346	2452	2558	2665	2771	2877		
86	2984	3090	3196	3302	3409	3515	3621	3728	3834	3940		
87	4046	4153	4259	4365	4471	4578	4684	4790	4896	5003		
88	5109	5215	5321	5428	5534	5640	5746	5852	5959	6065		
89	6171	6277	6383	6490	6596	6702	6808	6914	7021	7127		
4090	7233	7339	7445	7552	7658	7764	7870	7976	8082	8189		106
91	8295	8401	8507	8613	8719	8826	8932	9038	9144	9250		1-11
92	9356	9462	9568	9675	9781	9887	9993	0099	0205	0311		2-21
93	612.0417	0524	0630	0736	0842	0948	1054	1160	1266	1372		3-32
94	1478	1584	1690	1797	1903	2009	2115	2221	2327	2433		4-42
95	2539	2645	2751	2857	2963	3069	3175	3281	3387	3493		5-53
96	3599	3706	3811	3918	4024	4130	4236	4342	4448	4554		6-64
97	4660	4766	4872	4978	5084	5190	5296	5402	5508	5614		7-74
98	5720	5825	5931	6037	6143	6249	6355	6461	6567	6673		8-85
99	6779	6885	6991	7097	7203	7309	7415	7521	7627	7733		9-95
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4100	612.7839	7944	8050	8156	8262	8368	8474	8580	8686	8792	106	106
01	8898	9004	9109	9215	9321	9427	9533	9639	9745	9851		1-11
02	9957	0062	0168	0274	0380	0486	0592	0698	0803	0909		2-21
03	613.1015	1121	1227	1333	1438	1544	1650	1756	1862	1968		3-32
04	2074	2179	2285	2391	2497	2603	2708	2814	2920	3026		4-42
05	3132	3237	3343	3449	3555	3661	3766	3872	3978	4084		5-53
06	4189	4295	4401	4507	4612	4718	4824	4930	5035	5141		6-64
07	5247	5353	5458	5564	5670	5776	5881	5987	6093	6199		7-74
08	6304	6410	6516	6621	6727	6833	6939	7044	7150	7256		8-85
09	7361	7467	7573	7678	7784	7890	7995	8101	8207	8312		9-95
4110	8418	8524	8629	8735	8841	8946	9052	9158	9263	9369		
11	9475	9580	9686	9792	9897	0003	0109	0214	0320	0425		
12	614.0531	0637	0742	0848	0953	1059	1165	1270	1376	1481		
13	1587	1693	1798	1904	2009	2115	2221	2326	2432	2537		
14	2643	2748	2854	2960	3065	3171	3276	3382	3487	3593		
15	3698	3804	3909	4015	4120	4226	4332	4437	4543	4648		
16	4754	4859	4965	5070	5176	5281	5387	5492	5598	5703		
17	5809	5914	6020	6125	6231	6336	6441	6547	6652	6758	105	
18	6863	6969	7074	7180	7285	7391	7496	7602	7707	7812		
19	7918	8023	8129	8234	8340	8445	8550	8656	8761	8867		
4120	8972	9078	9183	9288	9394	9499	9605	9710	9815	9921		
21	615.0025	0131	0237	0342	0448	0553	0658	0764	0869	0974		
22	1080	1185	1291	1396	1501	1607	1712	1817	1923	2028		
23	2133	2239	2344	2449	2555	2660	2765	2871	2976	3081		
24	3187	3292	3397	3502	3608	3713	3818	3924	4029	4134		
25	4240	4345	4451	4555	4661	4766	4871	4976	5082	5187		
26	5292	5397	5503	5608	5713	5818	5924	6029	6134	6239		
27	6345	6450	6555	6660	6766	6871	6976	7081	7186	7292		
28	7397	7502	7607	7712	7818	7923	8028	8133	8238	8344		
29	8449	8554	8659	8764	8869	8975	9081	9185	9290	9395		
4130	9501	9606	9711	9816	9921	0026	0131	0236	0342	0447		105
31	616.0552	0657	0762	0867	0972	1077	1183	1288	1393	1498		1-10
32	1603	1708	1813	1918	2023	2129	2234	2339	2444	2549		2-21
33	2654	2759	2864	2969	3074	3179	3284	3389	3495	3600		3-31
34	3705	3810	3915	4020	4125	4230	4335	4440	4545	4650		4-42
35	4755	4860	4965	5070	5175	5280	5385	5490	5595	5700		5-53
36	5805	5910	6015	6120	6225	6330	6435	6540	6645	6750		6-63
37	6855	6960	7065	7170	7275	7380	7485	7590	7695	7800		7-73
38	7905	8010	8115	8220	8325	8430	8534	8639	8744	8849		8-84
39	8954	9059	9164	9269	9374	9479	9584	9689	9794	9898		9-94
4140	617.0003	0108	0213	0318	0423	0528	0633	0738	0842	0947		
41	1052	1157	1262	1367	1472	1577	1681	1786	1891	1996		
42	2101	2206	2311	2415	2520	2625	2730	2835	2940	3044		
43	3149	3254	3359	3464	3569	3673	3778	3883	3988	4093		
44	4197	4302	4407	4512	4617	4721	4826	4931	5036	5141		
45	5245	5350	5455	5560	5664	5769	5874	5979	6083	6188		
46	6293	6398	6502	6607	6712	6817	6921	7026	7131	7236		
47	7340	7445	7550	7654	7759	7864	7969	8073	8178	8283		
48	8387	8492	8597	8702	8806	8911	9016	9120	9225	9330		
49	9434	9539	9644	9748	9853	9958	0062	0167	0272	0376		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 41500. L. 618

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4150	618.0481	0586	0690	0795	0899	1004	1109	1213	1318	1423	105	
51	1527	1632	1737	1841	1946	2050	2155	2260	2364	2469		
52	2573	2678	2783	2887	2992	3096	3201	3306	3410	3515		
53	3619	3724	3828	3933	4038	4142	4247	4351	4456	4560		
54	4665	4769	4874	4979	5083	5188	5292	5397	5501	5606		
55	5710	5815	5919	6024	6128	6233	6337	6442	6546	6651		
56	6755	6860	6964	7069	7173	7278	7382	7487	7591	7696	104	
57	7800	7905	8009	8114	8218	8323	8427	8531	8636	8740		
58	8845	8949	9054	9158	9263	9367	9471	9576	9680	9785		
59	9889	9994	0098	0202	0307	0411	0516	0620	0724	0829		
4160	619.0933	1038	1142	1246	1351	1455	1560	1664	1768	1873		
61	1977	2081	2186	2290	2395	2499	2603	2708	2812	2916		
62	3021	3125	3229	3334	3438	3542	3647	3751	3855	3960		
63	4064	4168	4273	4377	4481	4586	4690	4794	4899	5003		
64	5107	5211	5316	5420	5524	5629	5733	5837	5941	6046		
65	6150	6254	6359	6463	6567	6671	6776	6880	6984	7088		
66	7193	7297	7401	7505	7610	7714	7818	7922	8027	8131		
67	8235	8339	8443	8548	8652	8756	8860	8964	9069	9173		
68	9277	9381	9485	9590	9694	9798	9902	0006	0111	0215		
69	620.0319	0423	0527	0631	0736	0840	0944	1048	1152	1256		
4170	1361	1465	1569	1673	1777	1881	1985	2089	2194	2298	104	
71	2402	2506	2610	2714	2818	2922	3027	3131	3235	3339	1-10	
72	3443	3547	3651	3755	3859	3963	4067	4172	4276	4380	2-21	
73	4484	4588	4692	4796	4900	5004	5108	5212	5316	5420	3-31	
74	5524	5628	5732	5837	5941	6045	6149	6253	6357	6461	4-42	
75	6565	6669	6773	6877	6981	7085	7189	7293	7397	7501	5-52	
76	7605	7709	7813	7917	8021	8125	8229	8333	8437	8541	6-62	
77	8645	8749	8853	8957	9061	9165	9269	9372	9476	9580	7-73	
78	9684	9788	9892	9996	0100	0204	0308	0412	0516	0620	8-83	
79	621.0724	0828	0931	1035	1139	1243	1347	1451	1555	1659	9-94	
4180	1763	1867	1971	2074	2178	2282	2386	2490	2594	2698		
81	2802	2905	3009	3113	3217	3321	3425	3529	3633	3736		
82	3840	3944	4048	4152	4256	4359	4463	4567	4671	4775		
83	4879	4982	5086	5190	5294	5398	5501	5605	5709	5813		
84	5917	6021	6124	6228	6332	6436	6539	6643	6747	6851		
85	6955	7058	7162	7266	7370	7474	7577	7681	7785	7888		
86	7992	8096	8200	8303	8407	8511	8615	8718	8822	8926		
87	9030	9133	9237	9341	9444	9548	9652	9756	9859	9963		
88	622.0067	0170	0274	0378	0481	0585	0689	0793	0896	1000		
89	1104	1207	1311	1415	1518	1622	1726	1829	1933	2037		
4190	2140	2244	2347	2451	2555	2658	2762	2866	2969	3073	103	
91	3177	3280	3384	3487	3591	3695	3798	3902	4005	4109	1-10	
92	4213	4316	4420	4523	4627	4731	4834	4938	5041	5145	2-21	
93	5249	5352	5456	5559	5663	5766	5870	5974	6077	6181	3-31	
94	6284	6388	6491	6595	6698	6802	6905	7009	7113	7216	4-41	
95	7320	7423	7527	7630	7734	7837	7941	8044	8148	8251	5-51	
96	8355	8458	8562	8665	8769	8872	8976	9079	9183	9286	103	
97	9390	9493	9597	9700	9804	9907	0010	0114	0217	0321	7-72	
98	623.0424	0528	0631	0735	0838	0942	1045	1148	1252	1355	8-82	
99	1459	1562	1666	1769	1872	1976	2079	2183	2286	2389	9-93	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 42000. L. 623.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4200	623. 2493	2596	2700	2803	2906	3010	3113	3217	3320	3423	103	
01	3527	3630	3734	3837	3940	4044	4147	4250	4354	4457		
02	4560	4664	4767	4870	4974	5077	5181	5284	5387	5491		
03	5594	5697	5801	5904	6007	6110	6214	6317	6420	6524		
04	6627	6730	6834	6937	7040	7144	7247	7350	7453	7557		
05	7660	7763	7867	7970	8073	8176	8280	8383	8486	8589		
06	8693	8796	8899	9002	9106	9209	9312	9415	9519	9622		
07	9725	9828	9932	0035	0138	0241	0344	0448	0551	0654		
08	624. 0757	0860	0964	1067	1170	1273	1376	1480	1583	1686		
09	1789	1892	1996	2099	2202	2305	2408	2511	2615	2718		
4210	2821	2924	3027	3130	3234	3337	3440	3543	3645	3749		103
11	3852	3955	4059	4162	4265	4368	4471	4574	4677	4780		1-10
12	4884	4987	5090	5193	5296	5399	5502	5605	5708	5811		2-21
13	5915	6018	6121	6224	6327	6430	6533	6636	6739	6842		3-31
14	6945	7048	7151	7254	7357	7461	7564	7667	7770	7873		4-41
15	7976	8079	8182	8285	8388	8491	8594	8697	8800	8903		5-51
16	9006	9109	9212	9315	9418	9521	9624	9727	9830	9933		6-62
17	425. 0036	0139	0242	0345	0448	0551	0654	0757	0860	0963		7-72
18	1066	1169	1272	1375	1478	1580	1683	1786	1889	1992		8-82
19	2095	2198	2301	2404	2507	2610	2713	2816	2919	3022		9-93
4220	3125	3227	3330	3433	3536	3639	3742	3845	3948	4051		
21	4154	4256	4359	4462	4565	4668	4771	4874	4977	5079		
22	5182	5285	5388	5491	5594	5697	5799	5902	6005	6108		
23	6211	6314	6416	6519	6622	6725	6828	6931	7033	7136		
24	7239	7342	7445	7547	7650	7753	7856	7959	8061	8164		
25	8267	8370	8473	8575	8678	8781	8884	8987	9089	9192		
26	9295	9398	9500	9603	9706	9809	9911	0014	0117	0220		
27	626. 0322	0425	0528	0631	0733	0836	0939	1042	1144	1247		
28	1350	1452	1555	1658	1761	1863	1966	2069	2171	2274		
29	2377	2479	2582	2685	2788	2890	2993	3096	3198	3301		
4230	3404	3506	3609	3712	3814	3917	4020	4122	4225	4328		
31	4430	4533	4635	4738	4841	4943	5046	5149	5251	5354		
32	5457	5559	5662	5764	5867	5970	6072	6175	6277	6380		
33	6483	6585	6688	6790	6893	6996	7098	7201	7303	7406		
34	7509	7611	7714	7816	7909	8021	8124	8226	8329	8432		
35	8534	8637	8739	8842	8944	9047	9149	9252	9354	9457		
36	9560	9662	9765	9867	9970	0072	0175	0277	0380	0482		
37	627. 0585	0687	0790	0892	0995	1097	1200	1302	1405	1507	102	
38	1610	1712	1814	1917	2019	2122	2224	2327	2429	2532		
39	2634	2737	2839	2941	3044	3146	3249	3351	3454	3556		
4240	3659	3761	3863	3966	4068	4171	4273	4375	4478	4580		
41	4683	4785	4887	4990	5092	5195	5297	5399	5502	5604		
42	5707	5809	5911	6014	6116	6218	6321	6423	6526	6628		
43	6730	6833	6935	7037	7140	7242	7344	7447	7549	7651		
44	7754	7856	7958	8061	8163	8265	8368	8470	8572	8675		
45	8777	8879	8982	9084	9186	9288	9391	9493	9595	9698		
46	9800	9902	0004	0107	0209	0311	0414	0516	0618	0720		
47	628. 0823	0925	1027	1129	1232	1334	1436	1538	1641	1743		
48	1845	1947	2049	2152	2254	2356	2458	2561	2663	2765		
49	2857	2960	3072	3174	3276	3378	3480	3583	3685	3787		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

10 101000.

N. 42500. L. 628

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4250	628	3889	3991	4094	4196	4298	4400	4502	4605	4707	4809	102
51	4911	5013	5115	5217	5320	5422	5524	5626	5728	5830		
52	5933	6035	6137	6239	6341	6443	6545	6647	6750	6852		
53	6954	7056	7158	7260	7362	7464	7565	7669	7771	7873		
54	7975	8077	8179	8281	8383	8485	8587	8689	8791	8894		
55	8996	9098	9200	9302	9404	9506	9608	9710	9812	9914		
56	529	0016	0118	0220	0322	0424	0526	0628	0730	0832	0934	
57	1037	1138	1240	1342	1445	1547	1649	1751	1853	1955		
58	2057	2159	2261	2362	2464	2566	2668	2770	2872	2974		
59	3076	3178	3280	3382	3484	3586	3688	3790	3892	3994		
4260	4096	4198	4300	4402	4504	4606	4708	4810	4911	5013		102
61	5115	5217	5319	5421	5523	5625	5727	5829	5931	6033		1-10
62	6134	6236	6338	6440	6542	6644	6746	6848	6950	7051		2-20
63	7153	7255	7357	7459	7561	7663	7764	7866	7968	8070		3-31
64	8172	8274	8376	8477	8579	8681	8783	8885	8987	9088		4-41
65	9190	9292	9394	9496	9598	9699	9801	9903	0005	0107		5-51
66	630	0209	0310	0412	0514	0616	0717	0819	0921	1023	1125	6-61
67	1226	1328	1430	1532	1633	1735	1837	1939	2041	2142		7-71
68	2244	2346	2448	2549	2651	2753	2855	2956	3058	3160		8-82
69	3262	3363	3465	3567	3668	3770	3872	3974	4075	4177		9-92
4270	4279	4380	4482	4584	4686	4787	4889	4991	5092	5194		
71	5296	5397	5499	5601	5702	5804	5906	6007	6109	6211		
72	6312	6414	6516	6617	6719	6821	6922	7024	7126	7227		
73	7329	7431	7532	7634	7735	7837	7939	8040	8142	8244		
74	8345	8447	8548	8650	8752	8853	8955	9056	9158	9260		
75	9361	9463	9564	9666	9767	9869	9971	0072	0174	0275		
76	631	0377	0478	0580	0682	0783	0885	0986	1088	1189	1291	
77	1393	1494	1596	1697	1799	1900	2002	2103	2205	2306		
78	2408	2509	2611	2712	2814	2915	3017	3118	3220	3321		
79	3423	3524	3626	3727	3829	3930	4032	4133	4235	4336	101	
4280	4438	4539	4641	4742	4843	4945	5046	5148	5249	5351		
81	5452	5554	5655	5757	5858	5959	6061	6162	6264	6365		
82	6467	6568	6669	6771	6872	6974	7075	7176	7278	7379		
83	7481	7582	7683	7785	7886	7988	8089	8190	8292	8393		
84	8495	8596	8697	8799	8900	9001	9103	9204	9305	9407		
85	9508	9610	9711	9812	9914	0015	0116	0218	0319	0420		
86	632	0522	0623	0724	0826	0927	1028	1130	1231	1332	1433	
87	1535	1636	1737	1839	1940	2041	2143	2244	2345	2446		
88	2548	2649	2750	2852	2953	3054	3155	3257	3358	3459		
89	3560	3662	3763	3864	3965	4067	4168	4269	4370	4472		
4290	4573	4674	4775	4877	4978	5079	5180	5281	5383	5484		101
91	5585	5686	5788	5889	5990	6091	6192	6294	6395	6496		1-10
92	6597	6698	6799	6901	7002	7103	7204	7305	7406	7508		2-20
93	7609	7710	7811	7912	8013	8115	8216	8317	8418	8519		3-30
94	8620	8721	8823	8924	9025	9126	9227	9328	9429	9531		4-40
95	9632	9733	9834	9935	0036	0137	0238	0339	0440	0542		5-50
96	633	0643	0744	0845	0946	1047	1148	1249	1350	1451	1552	6-61
97	1654	1755	1856	1957	2058	2159	2260	2361	2462	2563		7-71
98	2664	2765	2866	2967	3068	3169	3270	3371	3472	3573		8-81
99	3674	3775	3876	3977	4078	4179	4280	4381	4483	4584		9-91
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 43000. L. 633.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4300	633.4685	4786	4886	4987	5088	5189	5290	5391	5492	5593	101	101
01	5694	5795	5896	5997	6098	6199	6300	6401	6502	6603		1-10
02	6704	6805	6906	7007	7108	7209	7310	7411	7512	7612		2-20
03	7713	7814	7915	8016	8117	8218	8319	8420	8521	8622		3-30
04	8723	8823	8924	9025	9126	9227	9328	9429	9530	9631		4-40
05	9732	9832	9933	0034	0135	0236	0337	0438	0538	0639		5-50
06	634.0740	0841	0942	1043	1144	1244	1345	1446	1547	1648		6-61
07	1749	1850	1950	2051	2152	2253	2354	2454	2555	2656		7-71
08	2757	2858	2959	3059	3160	3261	3362	3463	3563	3664		8-81
09	3765	3866	3966	4067	4168	4269	4370	4470	4571	4672		9-91
4310	4773	4873	4974	5075	5176	5276	5377	5478	5579	5679		
11	5780	5881	5982	6082	6183	6284	6385	6485	6586	6687		
12	6788	6888	6989	7090	7190	7291	7392	7492	7593	7694		
13	7795	7895	7996	8097	8197	8298	8399	8499	8600	8701		
14	8801	8902	9003	9103	9204	9305	9405	9506	9607	9707		
15	9808	9909	0009	0110	0211	0311	0412	0512	0613	0714		
16	635.0814	0915	1016	1116	1217	1317	1418	1519	1619	1720		
17	1820	1921	2022	2122	2223	2323	2424	2525	2625	2726		
18	2826	2927	3027	3128	3229	3329	3430	3530	3631	3731		
19	3832	3933	4033	4134	4234	4335	4435	4536	4636	4737		
4320	4837	4938	5038	5139	5240	5340	5441	5541	5642	5742	100	
21	5843	5943	6044	6144	6245	6345	6446	6546	6647	6747		
22	6848	6948	7049	7149	7249	7350	7450	7551	7651	7752		
23	7852	7953	8053	8154	8254	8355	8455	8555	8656	8756		
24	8857	8957	9058	9158	9259	9359	9459	9560	9660	9761		
25	9861	9961	0062	0162	0263	0363	0464	0564	0664	0765		
26	636.0865	0965	1066	1166	1267	1367	1467	1568	1668	1769		
27	1869	1969	2070	2170	2270	2371	2471	2571	2672	2772		
28	2873	2973	3073	3173	3274	3374	3475	3575	3675	3775		
29	3876	3976	4076	4177	4277	4377	4478	4578	4678	4779		
4330	4879	4979	5080	5180	5280	5380	5481	5581	5681	5782		
31	5882	5982	6082	6183	6283	6383	6483	6584	6684	6784		
32	6884	6985	7085	7185	7285	7386	7486	7586	7686	7787		
33	7887	7987	8087	8188	8288	8388	8488	8588	8689	8789		
34	8889	8989	9089	9190	9290	9390	9490	9590	9691	9791		
35	9891	9991	0091	0192	0292	0392	0492	0592	0692	0793		
36	637.0893	0993	1093	1193	1293	1393	1494	1594	1694	1794		
37	1894	1994	2094	2195	2295	2395	2495	2595	2695	2795		
38	2895	2996	3096	3196	3296	3396	3496	3596	3696	3796		
39	3897	3997	4097	4197	4297	4397	4497	4597	4697	4797		
4340	4897	4997	5097	5197	5297	5398	5498	5598	5698	5798	100	
41	5898	5998	6098	6198	6298	6398	6498	6598	6698	6798		1-10
42	6898	6998	7098	7198	7298	7398	7498	7598	7698	7798		2-20
43	7898	7998	8098	8198	8298	8398	8498	8598	8698	8798		3-30
44	8898	8998	9098	9198	9298	9398	9498	9598	9698	9798		4-40
45	9898	9998	0098	0198	0298	0397	0497	0597	0697	0797	99.9	5-50
46	638.0897	0997	1097	1197	1297	1397	1497	1597	1697	1796		6-60
47	1896	1996	2096	2196	2296	2396	2496	2596	2696	2795		7-70
48	2895	2995	3095	3195	3295	3395	3495	3594	3694	3794		8-80
49	3894	3994	4094	4194	4294	4393	4493	4593	4693	4793	99.8	9-90
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 43500. L. 638

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
4350	638.4893	4992	5092	5192	5292	5392	5491	5591	5691	5791		
51	5891	5991	6090	6190	6290	6390	6490	6589	6689	6789		
52	6889	6989	7088	7188	7288	7388	7488	7587	7687	7787		
53	7887	7986	8086	8186	8286	8385	8485	8585	8685	8784		
54	8884	8984	9084	9183	9283	9383	9483	9582	9682	9782	99.7	
55	9882	9981	0081	0281	0280	0380	0480	0580	0679	0779		
56	639.0879	0978	1078	1178	1277	1377	1477	1577	1676	1776		
57	1876	1975	2075	2175	2274	2374	2474	2573	2673	2773		
58	2872	2972	3072	3171	3271	3370	3470	3570	3669	3769	99.6	
59	3869	3968	4068	4168	4267	4367	4466	4566	4666	4765		
4360	4865	4964	5064	5164	5263	5363	5462	5562	5662	5761		99.5
61	5861	5960	6060	6160	6259	6359	6458	6558	6657	6757		1-10
62	6857	6956	7056	7155	7255	7354	7454	7553	7653	7753		2-20
63	7852	7952	8051	8151	8250	8350	8449	8549	8648	8748	99.5	3-30
64	8847	8947	9046	9146	9245	9345	9444	9544	9643	9743		4-40
65	9842	9941	0041	0141	0240	0340	0439	0539	0638	0738		5-50
66	640.0837	0937	1036	1136	1235	1335	1434	1534	1633	1732		6-60
67	1832	1931	2031	2130	2230	2329	2429	2528	2627	2727	99.4	7-70
68	2826	2926	3025	3125	3224	3323	3423	3522	3622	3721		8-80
69	3820	3920	4019	4119	4218	4317	4417	4516	4616	4715		9-90
4370	4814	4914	5013	5112	5212	5311	5411	5510	5609	5709		
71	5808	5907	6007	6106	6205	6305	6404	6503	6603	6702	99.3	
72	6802	6901	7000	7099	7199	7298	7397	7497	7596	7695		
73	7795	7894	7993	8093	8192	8291	8391	8490	8589	8688		
74	8788	8887	8986	9086	9185	9284	9383	9483	9582	9681		
75	9781	9880	9979	0078	0178	0277	0376	0475	0575	0674		
76	641.0773	0872	0972	1071	1170	1269	1369	1468	1567	1666	99.2	
77	1765	1865	1964	2063	2162	2261	2361	2460	2559	2658		
78	2758	2857	2956	3055	3154	3253	3353	3452	3551	3650		
79	3749	3849	3948	4047	4146	4245	4344	4444	4543	4642		
4380	4741	4840	4939	5039	5138	5237	5336	5435	5534	5633	99.1	99
81	5733	5832	5931	6030	6129	6228	6327	6426	6525	6625		1-10
82	6724	6823	6922	7021	7120	7219	7318	7417	7516	7616		2-20
83	7715	7814	7913	8012	8111	8210	8309	8408	8507	8606		3-30
84	8705	8804	8904	9003	9102	9201	9300	9399	9498	9597		4-40
85	9696	9795	9894	9993	0092	0191	0290	0389	0488	0587	99	5-49
86	642.0686	0785	0884	0983	1082	1181	1280	1379	1478	1577		6-59
87	1676	1775	1874	1973	2072	2171	2270	2369	2468	2567		7-69
88	2666	2765	2864	2963	3062	3161	3260	3359	3458	3557		8-79
89	3656	3755	3854	3953	4051	4150	4249	4348	4447	4546	98.9	9-89
4390	4645	4744	4843	4942	5041	5140	5239	5338	5437	5535		
91	5634	5733	5832	5931	6030	6129	6228	6327	6425	6524		
92	6623	6722	6821	6920	7019	7118	7217	7315	7414	7513		
93	7612	7711	7810	7909	8007	8106	8205	8304	8403	8502	98.8	
94	8601	8699	8798	8897	8996	9095	9193	9292	9391	9490		
95	9589	9688	9786	9885	9984	0083	0182	0280	0379	0478		
96	643.0577	0676	0774	0873	0972	1071	1170	1268	1367	1466		
97	1565	1663	1762	1861	1960	2058	2157	2256	2355	2453		
98	2552	2651	2750	2848	2947	3046	3145	3243	3342	3441	98.7	
99	3540	3638	3737	3836	3934	4033	4132	4231	4329	4428		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4400	543.	4527	4625	4724	4823	4922	5020	5119	5218	5316	5415	99
01		5514	5612	5711	5810	5908	5007	6106	6204	6303	6402	1-10
02		6500	6599	6698	6796	6895	6994	7042	7191	7290	7388	98.6
03		7487	7585	7684	7783	7881	7980	8079	8177	8276	8374	3-20
04		8473	8572	8670	8769	8867	8966	9065	9163	9262	9360	4-40
05		9459	9558	9656	9755	9853	9952	0051	0149	0248	0346	5-49
06	644.	0445	0543	0642	0741	0839	0938	1036	1135	1233	1332	6-59
07		1431	1529	1628	1726	1825	1923	2022	2120	2219	2317	98.5
08		2415	2514	2613	2711	2810	2908	3007	3105	3204	3302	8-79
09		3401	3499	3598	3696	3795	3893	3992	4090	4189	4287	9-89
4410		4386	4484	4583	4681	4780	4878	4977	5075	5174	5272	98.5
11		5371	5469	5567	5666	5764	5863	5961	6060	6158	6257	98.4
12		6355	6453	6552	6650	6749	6847	6946	7044	7142	7241	2-20
13		7339	7438	7536	7634	7733	7831	7930	8028	8126	8225	3-30
14		8323	8422	8520	8618	8717	8815	8914	9012	9110	9209	4-39
15		9307	9405	9504	9602	9700	9799	9897	9996	0094	0192	5-49
16	645.	0291	0389	0487	0586	0684	0782	0881	0979	1077	1176	98.3
17		1274	1372	1471	1569	1667	1766	1864	1962	2060	2159	7-69
18		2257	2355	2454	2552	2650	2749	2847	2945	3043	3142	8-79
19		3240	3338	3437	3535	3633	3731	3830	3928	4026	4124	9-89
4420		4223	4321	4419	4517	4616	4714	4812	4910	5009	5107	98.2
21		5205	5303	5402	5500	5598	5696	5794	5893	5991	6089	
22		6187	6285	6384	6482	6580	6678	6777	6875	6973	7071	
23		7169	7268	7366	7464	7562	7660	7758	7857	7955	8053	
24		8151	8249	8347	8446	8544	8642	874	8838	8936	9035	
25		9133	9231	9329	9427	9525	9623	9722	9820	9918	0016	98.1
26	646.	0114	0212	0310	0408	0507	0605	0703	0801	0899	0997	
27		1095	1193	1291	1389	1488	1586	1684	1782	1880	1978	
28		2076	2174	2272	2370	2468	2566	2665	2763	2861	2959	
29		3057	3155	3253	3351	3449	3547	3645	3743	3841	3939	98
4430		4037	4135	4233	4331	4429	4527	4625	4723	4821	4919	98
31		5018	5115	5213	5311	5409	5507	5605	5703	5801	5899	1-10
32		5998	6095	6193	6291	6389	6487	6585	6683	6781	6879	2-20
33		6977	7075	7173	7271	7369	7467	7565	7663	7761	7859	3-29
34		7957	8055	8153	8251	8349	8447	8544	8642	8740	8838	97.4
35		8936	9034	9132	9230	9328	9426	9524	9622	9720	9817	5-49
36		9915	0013	0111	0209	0307	0405	0503	0601	0698	0796	6-59
37	647.	0894	0992	1090	1188	1285	1384	1481	1579	1677	1775	7-69
38		1873	1971	2069	2166	2264	2362	2460	2558	2656	2754	97.8
39		2851	2949	3047	3145	3243	3341	3438	3536	3634	3732	9-88
4440		3830	3927	4025	4123	4221	4319	4416	4514	4612	4710	
41		4808	4905	5003	5101	5199	5297	5394	5492	5590	5688	
42		5786	5883	5981	6079	6177	6274	6372	6470	6568	6666	
43		6763	6861	6959	7056	7154	7252	7350	7447	7545	7643	97.7
44		7741	7838	7936	8034	8131	8229	8327	8424	8522	8620	
45		8718	8815	8913	9011	9108	9206	9304	9401	9499	9597	
46		9695	9792	9890	9988	0085	0183	0281	0378	0477	0574	
47	648.	0671	0769	0867	0964	1062	1160	1257	1355	1452	1550	97.6
48		1648	1745	1843	1941	2038	2136	2234	2331	2429	2526	
49		2624	2722	2819	2917	3014	3112	3210	3307	3405	3502	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 44500. L. 648

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4450	648.3600	3698	3795	3893	3990	4088	4186	4283	4381	4478		97-5
51	4576	4673	4771	4869	4966	5064	5161	5259	5356	5454		1-10
52	5552	5649	5747	5844	5942	6039	6137	6234	6332	6429	97-5	2-19
53	6527	6624	6722	6819	6917	7015	7112	7210	7307	7405		3-29
54	7502	7600	7697	7795	7892	7990	8087	8185	8282	8380		4-39
55	8477	8575	8672	8769	8867	8964	9062	9159	9257	9354		5-49
56	9452	9549	9647	9744	9842	9939	10036	10134	10231	10329		6-58
57	649.0426	0524	0621	0719	0816	0913	1011	1108	1206	1303	97-4	7-68
58	1401	1498	1595	1693	1790	1888	1985	2082	2180	2277		8-78
59	2375	2472	2569	2667	2764	2862	2959	3056	3154	3251		9-88
4460	3349	3446	3543	3641	3738	3835	3933	4030	4127	4225		
61	4322	4420	4517	4614	4712	4809	4906	5004	5101	5198	97-3	
62	5295	5393	5490	5588	5685	5782	5880	5977	6074	6172		
63	6269	6366	6463	6561	6658	6755	6853	6950	7047	7145		
64	7242	7339	7436	7534	7631	7728	7825	7923	8020	8117		
65	8215	8312	8409	8506	8604	8701	8798	8895	8993	9090		
66	9187	9284	9382	9479	9576	9673	9771	9868	9965	10062	97-2	
67	650.0160	0257	0354	0451	0548	0646	0743	0840	0937	1034		
68	1132	1229	1326	1423	1520	1618	1715	1812	1909	2006		
69	2104	2201	2298	2395	2492	2589	2687	2784	2881	2978		
4470	3075	3172	3269	3367	3464	3561	3658	3755	3852	3950	97-1	97
71	4047	4144	4241	4338	4435	4532	4629	4727	4824	4921		1-10
72	5018	5115	5212	5309	5406	5503	5601	5698	5795	5892		2-19
73	5989	6086	6183	6280	6377	6474	6571	6669	6766	6863		3-29
74	6960	7057	7154	7251	7348	7445	7542	7639	7736	7833		4-39
75	7930	8027	8124	8221	8319	8416	8513	8610	8707	8804	97	5-48
76	8901	8998	9095	9192	9289	9386	9483	9580	9677	9774		6-58
77	9871	9968	0065	0162	0259	0356	0453	0550	0647	0744		7-68
78	651.0841	0938	1035	1132	1229	1326	1423	1520	1617	1714		8-78
79	1811	1908	2004	2101	2198	2295	2392	2489	2586	2683		9-87
4480	2780	2877	2974	3071	3168	3265	3362	3459	3556	3652	96-9	
81	3749	3846	3943	4040	4137	4234	4331	4428	4525	4622		
82	4719	4815	4912	5009	5106	5203	5300	5397	5494	5590		
83	5687	5784	5881	5978	6075	6172	6269	6365	6462	6559		
84	6656	6753	6850	6947	7043	7140	7237	7334	7431	7528	96-8	
85	7624	7721	7818	7915	8012	8109	8205	8302	8399	8496		
86	8593	8689	8786	8883	8980	9077	9173	9270	9367	9464		
87	9561	9657	9754	9851	9948	0045	0141	0238	0335	0432		
88	652.0528	0625	0722	0819	0915	1012	1109	1206	1303	1399		
89	1496	1593	1689	1786	1883	1980	2076	2173	2270	2367	96-7	
4490	2463	2560	2657	2754	2850	2947	3044	3140	3237	3334		96-5
91	3431	3527	3624	3721	3817	3914	4011	4107	4204	4301		1-10
92	4397	4494	4591	4687	4784	4881	4977	5074	5171	5267		2-19
93	5364	5461	5557	5654	5751	5847	5944	6041	6137	6234	96-6	3-29
94	6331	6427	6524	6621	6717	6814	6910	7007	7104	7200		4-39
95	7297	7394	7490	7587	7683	7780	7877	7973	8070	8166		5-48
96	8263	8360	8456	8553	8649	8746	8843	8939	9036	9132		6-58
97	9229	9325	9422	9519	9615	9712	9808	9905	0001	0098		7-68
98	653.0195	0291	0388	0484	0581	0677	0774	0870	0967	1063	96-5	8-77
99	1160	1256	1353	1449	1546	1643	1739	1836	1932	2029		9-87
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4500	653.2125	2222	2318	2415	2511	2608	2704	2801	2897	2994		96.5
01	3090	3187	3283	3380	3476	3572	3669	3765	3862	3958		1-10
02	4055	4151	4248	4344	4441	4537	4634	4730	4827	4923		2-19
03	5019	5116	5212	5309	5405	5502	5598	5694	5791	5887	96.4	3-29
04	5984	6080	6177	6273	6369	6466	6562	6659	6755	6851		4-39
05	6948	7044	7141	7237	7333	7430	7526	7623	7719	7815		5-48
06	7912	8008	8105	8201	8297	8394	8490	8586	8683	8779		6-58
07	8876	8972	9068	9165	9261	9357	9454	9550	9646	9743		7-68
08	9839	9935	0032	0128	0224	0321	0417	0513	0610	0706	96.3	8-77
09	654.0820	0899	0995	1091	1188	1284	1380	1476	1573	1669		9-87
4510	1765	1862	1958	2054	2151	2247	2343	2439	2536	2632		
11	2728	2824	2921	3017	3113	3210	3306	3402	3498	3595		
12	3691	3787	3883	3980	4076	4172	4268	4365	4461	4557	96.2	
13	4653	4750	4846	4942	5038	5134	5231	5327	5423	5519		
14	5615	5712	5808	5904	6000	6097	6193	6289	6385	6481		
15	6578	6674	6770	6866	6962	7058	7155	7251	7347	7443		
16	7539	7635	7732	7828	7924	8020	8116	8212	8309	8405		
17	8501	8597	8693	8789	8885	8982	9078	9174	9270	9366	96.1	
18	9462	9558	9654	9751	9847	9943	0039	0135	0231	0327		
19	655.0423	0519	0616	0712	0808	0904	1000	1096	1192	1288		
4520	1384	1480	1576	1673	1769	1865	1961	2057	2153	2249		96
21	2345	2441	2537	2633	2729	2825	2921	3017	3113	3209		1-10
22	3306	3402	3498	3594	3690	3786	3882	3978	4074	4170	96	2-19
23	4266	4362	4458	4554	4650	4746	4842	4938	5034	5130		3-29
24	5226	5322	5418	5514	5610	5706	5802	5898	5994	6090		4-38
25	6186	6282	6378	6474	6570	6666	6762	6858	6954	7049		5-48
26	7145	7241	7337	7433	7529	7625	7721	7817	7913	8009	95.9	6-58
27	8105	8201	8297	8393	8489	8585	8680	8776	8872	8968		7-67
28	9064	9160	9256	9352	9448	9544	9640	9735	9831	9927		8-77
29	656.0023	0119	0215	0311	0407	0503	0598	0694	0790	0886		9-86
4530	0982	1078	1174	1270	1365	1461	1557	1653	1749	1845		
31	1941	2036	2132	2228	2324	2420	2516	2611	2707	2803	95.8	
32	2899	2995	3091	3186	3282	3378	3474	3570	3666	3761		
33	3857	3953	4049	4145	4240	4336	4432	4528	4624	4719		
34	4815	4911	5007	5102	5198	5294	5390	5486	5581	5677		
35	5773	5869	5964	6060	6156	6252	6347	6443	6539	6635		
36	6730	6826	6922	7018	7113	7209	7305	7401	7496	7592	95.7	
37	7688	7783	7879	7975	8071	8166	8262	8358	8453	8549		
38	8645	8741	8836	8932	9028	9123	9219	9315	9410	9506		
39	9602	9697	9793	9889	9984	0080	0176	0271	0367	0463		
4540	657.0559	0654	0750	0845	0941	1037	1132	1228	1324	1419	95.6	95.5
41	1515	1611	1706	1802	1898	1993	2089	2184	2280	2376		1-10
42	2471	2567	2662	2758	2854	2949	3045	3141	3236	3332		2-19
43	3427	3523	3619	3714	3810	3905	4001	4096	4192	4288		3-29
44	4383	4479	4574	4670	4765	4861	4957	5052	5148	5243		4-38
45	5339	5434	5530	5625	5721	5817	5912	6008	6103	6199	95.5	5-48
46	6294	6390	6485	6581	6676	6772	6867	6963	7058	7154		6-57
47	7250	7345	7441	7536	7632	7727	7823	7918	8014	8109		7-67
48	8205	8300	8395	8491	8586	8682	8777	8873	8968	9064		8-76
49	9159	9255	9350	9446	9541	9637	9732	9828	9923	0018	95.4	9-86
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N.45500. L.658

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4550	658.0114	0209	0305	0400	0496	0591	0687	0782	0877	0973		
51	1068	1164	1259	1355	1450	1545	1641	1736	1832	1927		
52	2023	2118	2213	2309	2404	2499	2595	2690	2786	2881		
53	2977	3072	3167	3263	3358	3453	3549	3644	3739	3835		
54	3930	4026	4121	4216	4312	4407	4502	4598	4693	4788		
55	4884	4979	5074	5170	5265	5360	5456	5551	5646	5742	95.3	
56	5837	5932	6028	6123	6218	6314	6409	6504	6600	6695		
57	6790	6886	6981	7076	7171	7267	7362	7457	7553	7648		
58	7743	7838	7934	8029	8124	8220	8315	8410	8505	8601		
59	8696	8791	8886	8982	9077	9172	9267	9363	9458	9553		
4560	9648	9744	9839	9934	0029	0125	0220	0315	0410	0505	95.2	
61	659.0601	0696	0791	0886	0982	1077	1172	1267	1362	1458		
62	1553	1648	1743	1838	1934	2029	2124	2219	2314	2409		
63	2505	2600	2695	2790	2885	2980	3076	3171	3266	3361		
64	3456	3551	3647	3742	3837	3932	4027	4122	4217	4313	95.1	
65	4408	4503	4598	4693	4788	4883	4979	5074	5169	5264		
66	5359	5454	5549	5644	5739	5835	5930	6025	6120	6215		
67	6310	6405	6500	6595	6690	6786	6881	6976	7071	7166		
68	7261	7356	7451	7546	7641	7736	7831	7926	8021	8116		
69	8212	8307	8402	8497	8592	8687	8782	8877	8972	9067	95	
4570	9162	9257	9352	9447	9542	9537	9732	9827	9922	0017		95
71	660.0112	0207	0302	0397	0492	0587	0682	0777	0872	0967		1-9
72	1062	1157	1252	1347	1442	1537	1632	1727	1822	1917		2-19
73	2012	2107	2202	2297	2392	2487	2582	2677	2772	2867		3-28
74	2962	3056	3151	3246	3341	3436	3531	3626	3721	3816	94.9	4-38
75	3911	4006	4101	4196	4291	4386	4480	4575	4670	4765		5-47
76	4860	4955	5050	5145	5240	5335	5430	5524	5619	5714		6-57
77	5809	5904	5999	6094	6189	6283	6378	6473	6568	6663		7-66
78	6758	6853	6948	7042	7137	7232	7327	7422	7517	7612		8-76
79	7706	7801	7896	7991	8086	8181	8275	8370	8465	8560	94.8	9-85
4580	8655	8750	8844	8939	9034	9129	9224	9318	9413	9508		
81	9603	9698	9792	9887	9982	0077	0172	0266	0361	0456		
82	661.0551	0646	0740	0835	0930	1025	1119	1214	1309	1404		
83	1499	1593	1688	1783	1878	1972	2067	2162	2257	2351		
84	2446	2541	2636	2730	2825	2920	3014	3109	3204	3299	94.7	
85	3393	3488	3583	3677	3772	3867	3962	4056	4151	4246		
86	4341	4435	4530	4625	4719	4814	4909	5003	5098	5193		
87	5287	5382	5477	5571	5666	5761	5855	5950	6045	6139		
88	6234	6329	6423	6518	6613	6707	6802	6897	6991	7086	94.6	
89	7181	7275	7370	7464	7559	7654	7748	7843	7938	8032		
4590	8127	8221	8316	8411	8505	8600	8694	8789	8884	8978		
91	9073	9167	9262	9357	9451	9546	9640	9735	9830	9924		94.5
92	662.0019	0113	0208	0302	0397	0492	0586	0681	0775	0870		1-9
93	0964	1059	1154	1248	1343	1437	1532	1626	1721	1815	94.5	2-19
94	1910	2004	2099	2193	2288	2383	2477	2572	2666	2761		3-28
95	2855	2950	3044	3139	3233	3328	3422	3517	3611	3706		4-38
96	3800	3895	3989	4084	4178	4273	4367	4462	4556	4651		5-47
97	4745	4839	4934	5028	5123	5217	5312	5406	5501	5595		6-57
98	5690	5784	5879	5973	6067	6162	6256	6351	6445	6540	94.4	7-66
99	6634	6728	6823	6917	7012	7106	7201	7295	7389	7484		8-76
												9-85
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 46000. L. 662.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4600	662.7578	7673	7767	7861	7956	8050	8145	8239	8333	8428		94-5
01	8522	8617	8711	8805	8900	8994	9089	9183	9277	9372		1-9
02	9466	9560	9655	9749	9844	9938	0032	0127	0221	0315		2-19
03	563.0410	0504	0598	0693	0787	0881	0976	1070	1164	1259	94-3	3-28
04	1353	1447	1542	1636	1730	1825	1919	2013	2108	2202		4-38
05	2296	2391	2485	2579	2674	2768	2862	2956	3051	3145		5-47
06	3239	3334	3428	3522	3616	3711	3805	3899	3994	4088		6-57
07	4182	4276	4371	4465	4559	4653	4748	4842	4936	5030		7-66
08	5125	5219	5313	5407	5502	5596	5690	5784	5879	5973	94-2	8-76
09	6067	6161	6255	6350	6444	6538	6632	6727	6821	6915		9-85
4610	7009	7103	7198	7292	7386	7480	7574	7669	7763	7857		
11	7951	8045	8140	8234	8328	8422	8516	8610	8705	8799		
12	8893	8987	9081	9175	9270	9364	9458	9552	9646	9740		
13	9835	9929	0023	0117	0211	0305	0399	0493	0588	0682	94-1	
14	664.0776	0870	0964	1058	1152	1246	1341	1435	1529	1623		
15	1717	1811	1905	1999	2093	2187	2282	2376	2470	2564		
16	2658	2752	2846	2940	3034	3128	3222	3316	3411	3505		
17	3599	3693	3787	3881	3975	4069	4163	4257	4351	4445		
18	4539	4633	4727	4821	4915	5009	5103	5197	5292	5386	94-0	
19	5480	5574	5668	5762	5856	5950	6044	6138	6232	6326		
4620	6420	6514	6608	6702	6796	6890	6984	7078	7172	7266		94
21	7360	7454	7548	7642	7736	7830	7923	8017	8112	8205		1-9
22	8299	8393	8487	8581	8675	8769	8863	8957	9051	9145		2-19
23	9239	9333	9427	9521	9615	9709	9802	9896	9990	0084	93-9	3-28
24	665.0178	0272	0366	0460	0554	0648	0742	0836	0930	1023		4-38
25	1117	1211	1305	1399	1493	1587	1681	1775	1868	1962		5-47
26	2056	2150	2244	2338	2432	2526	2619	2713	2807	2901		6-56
27	2995	3089	3183	3277	3370	3464	3558	3652	3746	3840		7-66
28	3934	4027	4121	4215	4309	4403	4496	4590	4684	4778	93-8	8-75
29	4872	4966	5059	5153	5247	5341	5435	5528	5622	5716		9-85
4630	5810	5904	5997	6091	6185	6279	6373	6466	6560	6654		
31	6748	6842	6935	7029	7123	7217	7310	7404	7498	7592		
32	7686	7779	7873	7967	8060	8154	8248	8342	8435	8529	93-7	
33	8623	8717	8810	8904	8998	9092	9185	9279	9373	9467		
34	9560	9654	9748	9841	9935	0029	0123	0216	0310	0404		
35	666.0427	0521	0615	0708	0802	0896	1059	1153	1247	1341		
36	1434	1528	1622	1715	1809	1903	1996	2090	2184	2277		
37	2371	2465	2558	2652	2746	2839	2933	3026	3120	3214	93-6	
38	3307	3401	3495	3588	3682	3776	3869	3963	4056	4150		
39	4244	4337	4431	4525	4618	4712	4805	4899	4993	5086		
4640	5180	5273	5367	5461	5554	5648	5741	5835	5928	6022		93-5
41	6116	6209	6303	6396	6490	6583	6677	6771	6864	6958		1-9
42	7051	7145	7238	7332	7426	7519	7613	7706	7800	7893	93-5	2-19
43	7987	8080	8174	8267	8361	8454	8548	8641	8735	8829		3-28
44	8922	9016	9109	9203	9296	9390	9483	9577	9670	9764		4-37
45	9857	9951	0044	0138	0231	0325	0418	0512	0605	0699		5-47
46	667.0792	0885	0979	1073	1166	1259	1353	1446	1540	1633		6-56
47	1727	1820	1914	2007	2100	2194	2287	2381	2474	2568	93-4	7-65
48	2661	2755	2848	2941	3035	3128	3222	3315	3409	3502		8-75
49	3595	3689	3782	3876	3969	4062	4156	4249	4343	4436		9-84
Num	0	1	2	3	4	5	6	7	8	6	D	Pro.

to 101000.

N. 46500. L. 667

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4650	667	4530	4623	4716	4810	4903	4996	5090	5183	5277	5370	
51		5463	5557	5650	5743	5837	5930	6024	6117	6210	6304	
52		6397	6490	6584	6677	6770	6864	6957	7050	7144	7237	93-3
53		7331	7424	7517	7610	7704	7797	7890	7984	8077	8170	
54		8264	8357	8450	8544	8637	8730	8824	8917	9010	9104	
55		9197	9290	9383	9477	9570	9663	9757	9850	9943	0036	
56	668	0130	0223	0316	0409	0503	0596	0689	0783	0876	0969	
57		1062	1156	1249	1342	1435	1529	1622	1715	1808	1902	93-2
58		1995	2088	2181	2274	2368	2461	2554	2647	2741	2834	
59		2927	3020	3113	3207	3300	3393	3486	3580	3673	3766	
4660		3859	3952	4045	4139	4232	4325	4418	4511	4605	4698	
61		4791	4884	4977	5070	5164	5257	5350	5443	5536	5629	
62		5723	5816	5909	6002	6095	6188	6282	6375	6468	6561	93-1
63		6654	6747	6840	6934	7027	7120	7213	7306	7399	7492	
64		7585	7678	7772	7865	7958	8051	8144	8237	8330	8423	
65		8516	8610	8703	8796	8889	8982	9075	9168	9261	9354	
66		9447	9540	9633	9727	9820	9913	0006	0099	0192	0285	
67	669	0378	0471	0564	0657	0750	0843	0936	1029	1122	1215	93
68		1308	1401	1494	1588	1681	1774	1867	1960	2053	2146	
69		2239	2332	2425	2518	2611	2704	2797	2890	2983	3076	
4670		3169	3262	3355	3448	3541	3634	3727	3820	3913	4006	93
71		4099	4192	4285	4378	4471	4563	4656	4749	4842	4935	1-9
72		5028	5121	5214	5307	5400	5493	5586	5679	5772	5865	92-2
73		5958	6051	6144	6237	6329	6422	6515	6608	6701	6794	3-28
74		6887	6980	7073	7166	7259	7352	7444	7537	7630	7723	4-37
75		7816	7909	8002	8095	8188	8281	8373	8466	8559	8652	5-46
76		8745	8838	8931	9024	9116	9209	9302	9395	9488	9581	6-56
77		9674	9766	9859	9952	0045	0138	0231	0324	0416	0509	92-8
78	670	0602	0695	0788	0881	0973	1066	1159	1252	1345	1438	7-65
79		1530	1623	1716	1809	1902	1994	2087	2180	2273	2366	8-74
4680		2459	2551	2644	2737	2830	2922	3015	3108	3201	3294	9-84
81		3386	3479	3572	3665	3757	3850	3943	4036	4129	4221	
82		4314	4407	4500	4592	4685	4778	4871	4963	5056	5149	92-7
83		5242	5334	5427	5520	5612	5705	5798	5891	5983	6076	
84		6169	6262	6354	6447	6540	6632	6725	6818	6910	7003	
85		7096	7189	7281	7374	7467	7559	7652	7745	7837	7930	
86		8023	8115	8208	8301	8393	8486	8579	8671	8764	8857	
87		8950	9042	9135	9227	9320	9413	9505	9598	9691	9783	92-5
88		9876	9969	0061	0154	0247	0339	0432	0524	0617	0710	
89	671	0802	0895	0988	1080	1173	1265	1358	1451	1543	1636	
4690		1728	1821	1914	2006	2099	2191	2284	2377	2469	2562	92-5
91		2654	2747	2839	2932	3025	3117	3210	3302	3395	3487	1-9
92		3580	3673	3765	3858	3950	4043	4135	4228	4320	4413	2-18
93		4506	4598	4691	4783	4876	4968	5061	5153	5246	5338	92-5
94		5431	5523	5616	5708	5801	5893	5986	6078	6171	6263	3-28
95		6356	6448	6541	6633	6726	6818	6911	7003	7096	7188	4-37
96		7281	7373	7466	7558	7651	7743	7836	7928	8021	8112	5-46
97		8206	8298	8390	8483	8575	8668	8760	8853	8945	9038	6-55
98		9130	9222	9315	9407	9500	9592	9685	9777	9870	9962	7-65
99	672	0054	0147	0239	0332	0424	0516	0609	0701	0794	0886	8-74
												9-83
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 47000. L. 672.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4700	672.0979	1071	1163	1256	1348	1441	1533	1625	1718	1810		92-5
01	1903	1995	2087	2180	2272	2364	2457	2549	2641	2734		1-9
02	2826	2919	3011	3103	3196	3288	3380	3473	3565	3657		2-18
03	3750	3842	3934	4027	4119	4211	4304	4396	4488	4581	92-3	3-28
04	4673	4765	4858	4950	5042	5135	5227	5319	5412	5504		4-37
05	5596	5689	5781	5873	5965	6058	6150	6242	6335	6427		5-46
06	6519	6611	6704	6796	6888	6981	7073	7165	7257	7350		6-55
07	7442	7534	7626	7719	7811	7903	7995	8088	8180	8272		7-65
08	8365	8457	8549	8641	8733	8826	8918	9010	9102	9195	92-2	8-74
09	9287	9379	9471	9564	9656	9748	9840	9932	0025	0117		9-83
4710	673.0209	0301	0393	0486	0578	0670	0762	0854	0947	1039		
11	1131	1223	1315	1408	1500	1592	1684	1776	1868	1961		
12	2053	2145	2237	2329	2421	2514	2606	2698	2790	2882		
13	2974	3066	3158	3251	3343	3435	3527	3619	3711	3804	92-1	
14	3896	3988	4080	4172	4264	4356	4448	4541	4633	4725		
15	4817	4909	5001	5093	5185	5277	5370	5462	5554	5646		
16	5738	5830	5922	6014	6106	6198	6290	6382	6475	6567		
17	6659	6751	6843	6935	7027	7119	7211	7303	7395	7487		
18	7579	7671	7763	7855	7947	8040	8132	8224	8316	8408	92	
19	8500	8592	8684	8776	8868	8960	9052	9144	9236	9328		
4720	9420	9512	9604	9696	9788	9880	9972	0064	0156	0248		
21	674.0340	0432	0524	0616	0708	0800	0892	0984	1076	1168		
22	1250	1352	1444	1536	1628	1720	1812	1904	1995	2087		
23	2179	2271	2363	2455	2547	2639	2731	2823	2915	3007	91-9	
24	3099	3191	3283	3375	3467	3558	3650	3742	3834	3926		
25	4018	4110	4202	4294	4386	4478	4570	4661	4753	4845		
26	4937	5029	5121	5213	5305	5397	5488	5580	5672	5764		
27	5855	5948	6040	6132	6223	6315	6407	6499	6591	6683		
28	6775	6866	6958	7050	7142	7234	7326	7418	7509	7601	91-8	
29	7693	7785	7877	7969	8060	8152	8244	8336	8428	8520		
4730	8611	8703	8795	8887	8979	9070	9162	9254	9346	9438		92
31	9529	9621	9713	9805	9897	9988	0080	0172	0264	0356		1-9
32	675.0447	0539	0631	0723	0814	0906	0998	1090	1181	1273		2-18
33	1365	1457	1549	1640	1732	1824	1916	2007	2099	2191	91-7	3-28
34	2283	2374	2466	2558	2649	2741	2833	2925	3016	3108		4-37
35	3200	3292	3383	3475	3567	3658	3750	3842	3933	4025		5-46
36	4117	4209	4300	4392	4484	4575	4667	4759	4850	4942		6-55
37	5034	5125	5217	5309	5401	5492	5584	5676	5767	5859		7-64
38	5951	6042	6134	6225	6317	6408	6500	6592	6684	6775		8-74
39	6867	6959	7050	7142	7234	7325	7417	7508	7600	7692	91-6	9-83
4740	7783	7875	7967	8058	8150	8241	8333	8425	8516	8608		
41	8700	8791	8883	8974	9066	9157	9249	9341	9432	9524		
42	9615	9707	9799	9890	9982	0073	0165	0256	0348	0440		
43	676.0531	0623	0714	0806	0897	0989	1081	1172	1264	1355		
44	1447	1538	1630	1721	1813	1904	1996	2088	2179	2271	91-5	
45	2362	2454	2545	2637	2728	2820	2911	3003	3094	3186		
46	3277	3369	3463	3552	3643	3735	3826	3918	4009	4101		
47	4192	4284	4375	4467	4558	4650	4741	4833	4924	5016		
48	5107	5199	5290	5381	5473	5564	5656	5747	5839	5930		
49	6022	6113	6205	6296	6387	6479	6570	6662	6753	6845	94-4	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
4750	676	6930	7027	7119	7210	7302	7393	7485	7576	7667	7759	
51	7850	7942	8033	8124	8216	8307	8399	8490	8581	8673		
52	8764	8856	8947	9038	9130	9221	9313	9404	9495	9587		
53	9678	9769	9861	9952	0044	0135	0226	0318	0409	0500		
54	677	0592	0683	0774	0866	0957	1048	1140	1231	1322	1414	91.3
55	1505	1596	1688	1779	1870	1962	2053	2144	2236	2327		
56	2418	2510	2601	2692	2784	2875	2966	3058	3149	3240		
57	3332	3423	3514	3605	3697	3788	3879	3970	4062	4153		
58	4244	4336	4427	4518	4609	4701	4792	4883	4974	5066		
59	5157	5248	5340	5431	5522	5613	5705	5796	5887	5978	91.2	
4760	6070	6161	6252	6343	6434	6526	6617	6708	6799	6891		
61	6982	7073	7164	7255	7347	7438	7529	7620	7711	7803		
62	7894	7985	8076	8167	8259	8350	8441	8532	8623	8715		
63	8806	8897	8988	9079	9170	9262	9353	9444	9535	9626		
64	9718	9809	9900	9991	0082	0173	0264	0356	0447	0538		
65	678	0629	0720	0811	0902	0994	1085	1176	1267	1358	1449	91.1
66	1540	1631	1723	1814	1905	1996	2087	2178	2269	2360		
67	2452	2543	2634	2725	2816	2907	2998	3089	3180	3271		
68	3364	3454	3545	3636	3727	3818	3909	4000	4091	4182		
69	4273	4364	4455	4546	4637	4728	4820	4911	5002	5093		
4770	5184	5275	5366	5457	5548	5639	5730	5821	5912	6003	91	9
71	6094	6185	6276	6367	6458	6549	6640	6731	6822	6913		1-1
72	7004	7095	7186	7277	7368	7459	7550	7641	7732	7823		2-1
73	7914	8005	8096	8187	8278	8369	8460	8551	8642	8733		3-2
74	8824	8915	9006	9097	9188	9279	9370	9461	9552	9643		4-3
75	9734	9825	9916	0007	0098	0188	0279	0370	0461	0552	90.9	5-4
76	679	0643	0734	0825	0916	1007	1098	1189	1280	1371	1461	6-5
77	1552	1643	1734	1825	1916	2007	2098	2189	2280	2371		7-6
78	2461	2552	2643	2734	2825	2916	3007	3098	3189	3279		8-7
79	3370	3461	3552	3643	3734	3825	3915	4006	4097	4188		9-8
4780	4279	4370	4461	4551	4642	4733	4824	4915	5006	5097	90.8	
81	5187	5278	5369	5460	5551	5642	5732	5823	5914	6005		
82	6096	6186	6277	6368	6459	6550	6641	6731	6822	6913		
83	7004	7095	7186	7277	7368	7459	7549	7639	7730	7821		
84	7912	8002	8093	8184	8275	8366	8456	8547	8638	8729		
85	8819	8910	9001	9092	9182	9273	9364	9455	9545	9636		
86	9727	9818	9908	9999	0090	0181	0271	0362	0453	0544	90.7	
87	680	0634	0725	0816	0906	0997	1088	1179	1269	1360	1451	
88	1541	1632	1723	1813	1904	1995	2086	2176	2267	2358		
89	2448	2539	2630	2720	2811	2902	2992	3083	3174	3264		
4790	3355	3446	3536	3627	3718	3808	3899	3990	4080	4171		90.
91	4262	4352	4443	4534	4624	4715	4806	4896	4987	5077	90.6	1-1
92	5168	5259	5349	5440	5531	5621	5712	5802	5893	5984		2-1
93	6074	6165	6255	6346	6437	6527	6618	6708	6799	6890		3-2
94	6980	7071	7161	7252	7343	7433	7524	7614	7705	7795		4-3
95	7886	7977	8067	8158	8248	8339	8429	8520	8611	8701		5-4
96	8792	8882	8973	9063	9154	9244	9335	9426	9516	9607	90.5	6-5
97	9697	9788	9878	9969	0059	0150	0240	0331	0421	0512		7-6
98	681	0602	0693	0783	0874	0964	1055	1145	1236	1326	1417	8-7
99	1507	1598	1688	1779	1869	1960	2050	2141	2231	2322		9-8
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 48000. L. 681.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4800	681.2412	2503	2593	2684	2774	2865	2955	3046	3136	3227		90.5
01	3317	3407	3498	3588	3679	3769	3860	3950	4041	4131	90.4	1-9
02	4222	4312	4402	4493	4583	4674	4764	4855	4945	5035		2-18
03	5126	5216	5307	5397	5487	5578	5668	5759	5849	5940		3-27
04	6030	6120	6211	6301	6392	6482	6572	6663	6753	6843		4-36
05	6934	7024	7115	7205	7295	7386	7476	7567	7657	7747		5-45
06	7838	7928	8018	8109	8199	8289	8380	8470	8560	8651		6-54
07	8741	8832	8922	9012	9103	9193	9283	9374	9464	9554	90.3	7-63
08	9645	9735	9825	9916	0006	0096	0186	0277	0367	0457		8-72
09	682.0548	0638	0728	0819	0909	0999	1090	1180	1270	1360		9-81
4810	1451	1541	1631	1722	1812	1902	1992	2083	2173	2263		
11	2354	2444	2534	2624	2715	2805	2895	2985	3076	3166		
12	3256	3346	3437	3527	3617	3707	3798	3888	3978	4068	90.2	
13	4159	4249	4339	4429	4519	4610	4700	4790	4880	4971		
14	5061	5151	5241	5331	5422	5512	5602	5692	5782	5873		
15	5963	6053	6143	6233	6324	6414	6504	6594	6684	6775		
16	6865	6955	7045	7135	7225	7316	7406	7496	7586	7676		
17	7766	7857	7947	8037	8127	8217	8307	8397	8488	8578	90.1	
18	8668	8758	8848	8938	9028	9119	9209	9299	9389	9479		
19	9569	9659	9749	9840	9930	0020	0110	0200	0290	0380		
4820	683.0470	0560	0651	0741	0834	0921	1011	1101	1191	1281		
21	1371	1461	1551	1642	1732	1822	1912	2002	2092	2182		
22	2272	2362	2452	2542	2632	2722	2812	2902	2992	3083		
23	3173	3263	3353	3443	3533	3623	3713	3803	3893	3983	90	
24	4073	4163	4253	4343	4433	4523	4613	4703	4793	4883		
25	4973	5063	5153	5243	5333	5423	5513	5603	5693	5783		
26	5873	5963	6053	6143	6233	6323	6413	6503	6593	6683		
27	6773	6863	6953	7043	7133	7223	7313	7403	7493	7583		
28	7673	7763	7852	7942	8032	8122	8212	8302	8392	8482	89.9	
29	8572	8662	8752	8842	8932	9022	9112	9202	9291	9381		
4830	9471	9561	9651	9741	9831	9921	0011	0101	0191	0280		90
31	684.0370	0460	0550	0640	0730	0820	0910	1000	1089	1179		1-9
32	1269	1359	1449	1539	1629	1719	1808	1898	1988	2078		2-18
33	2168	2258	2348	2437	2527	2617	2707	2797	2887	2977		3-27
34	3066	3156	3246	3336	3426	3516	3605	3695	3785	3875	89.8	4-36
35	3965	4055	4144	4234	4324	4414	4504	4593	4683	4773		5-45
36	4863	4953	5043	5132	5222	5312	5402	5491	5581	5671		6-54
37	5761	5851	5940	6030	6120	6210	6300	6389	6479	6569		7-63
38	6659	6748	6838	6928	7018	7107	7197	7287	7377	7466		8-72
39	7556	7646	7736	7825	7915	8005	8095	8184	8274	8364	89.7	9-81
4840	8454	8543	8633	8723	8812	8902	8992	9082	9171	9261		
41	9351	9440	9530	9620	9710	9799	9889	9979	0068	0158		
42	685.0248	0337	0427	0517	0607	0696	0786	0876	0965	1055		
43	1145	1234	1324	1414	1503	1593	1683	1772	1862	1952		
44	2041	2131	2221	2310	2400	2490	2579	2669	2758	2848	89.6	
45	2938	3027	3117	3207	3296	3386	3476	3565	3655	3744		
46	3834	3924	4013	4103	4193	4282	4372	4461	4551	4641		
47	4730	4820	4909	4999	5089	5178	5268	5357	5447	5536		
48	5626	5716	5805	5895	5984	6074	6164	6253	6343	6432		
49	6522	6611	6701	6790	6880	6970	7059	7149	7238	7328		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.

10 101000.

N.48500. L. 685

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4850	685	7417	7507	7596	7685	7776	7865	7955	8044	8134	8223	89.5
51	8313	8402	8492	8581	8671	8760	8850	8939	9029	9118		1-9
52	9208	9297	9387	9476	9566	9655	9745	9834	9924	0013		2-18
53	686	0103	0192	0282	0371	0461	0550	0640	0729	0819	0908	3-27
54	0998	1087	1177	1266	1356	1445	1534	1624	1713	1803		4-36
55	1892	1982	2071	2161	2250	2340	2429	2518	2608	2697	89.4	5-45
56	2787	2876	2966	3055	3144	3234	3323	3413	3502	3592		6-54
57	3681	3770	3860	3949	4039	4128	4217	4307	4396	4486		7-63
58	4575	4664	4754	4843	4933	5022	5111	5201	5290	5380		8-72
59	5469	5558	5648	5737	5826	5916	6005	6095	6184	6273		9-81
4860	6363	6452	6541	6631	6720	6809	6899	6988	7077	7167		
61	7256	7345	7435	7524	7614	7703	7792	7882	7971	8060	89.3	
62	8150	8239	8328	8417	8507	8596	8685	8775	8864	8953		
63	9043	9132	9221	9311	9400	9489	9578	9668	9757	9846		
64	9936	0025	0114	0203	0293	0382	0471	0561	0650	0739		
65	687	0828	0917	1007	1096	1185	1275	1364	1453	1542	1632	
66	1721	1810	1899	1989	2078	2167	2256	2346	2435	2524	89.2	
67	2613	2703	2792	2881	2970	3060	3149	3238	3327	3416		
68	3506	3595	3684	3773	3862	3952	4041	4130	4219	4308		
69	4398	4487	4576	4665	4754	4844	4933	5022	5111	5200		
4870	5290	5379	5468	5557	5646	5735	5825	5914	6003	6092		
71	6181	6270	6360	6449	6538	6627	6716	6805	6894	6984		
72	7073	7162	7251	7340	7429	7518	7608	7697	7786	7875	89.1	
73	7964	8053	8142	8231	8321	8410	8499	8588	8677	8766		
74	8855	8944	9033	9123	9212	9301	9390	9479	9568	9657		
75	9746	9835	9924	0013	0102	0192	0281	0370	0459	0548		
76	688	0637	0726	0815	0904	0992	1082	1171	1260	1349	1438	
77	1528	1617	1706	1795	1884	1973	2062	2151	2240	2329	89	
78	2418	2507	2596	2685	2774	2863	2952	3041	3130	3219		
79	3308	3397	3486	3575	3664	3753	3842	3931	4020	4109		
4880	4198	4287	4376	4465	4554	4643	4732	4821	4910	4999		
81	5088	5177	5266	5355	5444	5533	5622	5711	5800	5889		
82	5978	6067	6156	6245	6334	6422	6511	6600	6689	6778	88.9	
83	6867	6956	7045	7134	7223	7312	7401	7490	7579	7668		
84	7757	7845	7934	8023	8112	8201	8290	8379	8468	8557		
85	8646	8735	8823	8912	9001	9090	9179	9268	9357	9446		
86	9535	9623	9712	9801	9890	9979	0068	0157	0246	0334		
87	689	0423	0512	0601	0690	0779	0868	0957	1045	1134	1223	
88	1312	1401	1490	1578	1667	1756	1845	1934	2023	2111	88.8	
89	2200	2289	2378	2467	2556	2644	2733	2822	2911	3000		
4890	3089	3177	3266	3355	3444	3533	3621	3710	3799	3888		89
91	3977	4065	4154	4243	4332	4421	4509	4598	4687	4776		1-9
92	4864	4953	5042	5131	5220	5308	5397	5486	5575	5663		2-18
93	5752	5841	5930	6018	6107	6196	6285	6373	6462	6551	88.7	3-27
94	6640	6728	6817	6906	6995	7083	7172	7261	7349	7438		4-36
95	7527	7616	7704	7793	7882	7970	8059	8148	8237	8325		5-44
96	8414	8503	8591	8680	8769	8858	8946	9035	9124	9212		6-53
97	9301	9390	9478	9567	9656	9744	9833	9922	0010	0099		7-62
98	690	0188	0276	0365	0454	0542	0631	0720	0808	0897	0986	8-71
99	1074	1163	1252	1340	1429	1518	1606	1695	1783	1872	88.6	9-80
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4900	690. 1961	2049	2138	2227	2315	2404	2492	2581	2670	2758		88.5
01	2847	2936	3024	3113	3201	3290	3379	3467	3556	3644		1—9
02	3733	3822	3910	3999	4087	4176	4265	4353	4442	4530		2—18
03	4619	4707	4796	4885	4973	5062	5150	5239	5327	5416		3—27
04	5505	5593	5682	5770	5859	5947	6036	6124	6213	6302		4—35
05	6390	6479	6567	6656	6744	6833	6921	7010	7098	7187	88.5	5—44
06	7275	7364	7452	7541	7629	7718	7806	7895	7984	8072		6—53
07	8161	8249	8338	8426	8515	8603	8692	8780	8869	8957		7—62
08	9046	9134	9222	9311	9399	9488	9576	9665	9753	9842		8—71
09	9930	0019	0107	0196	0284	0373	0461	0550	0638	0726		9—80
4910	691. 0815	0903	0992	1080	1169	1257	1346	1434	1522	1611	88.4	
11	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
12	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
13	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
14	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
15	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
16	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
17	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
18	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
19	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4920	692. 0851	0939	1028	1116	1204	1292	1381	1469	1557	1645	88.2	
21	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
22	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
23	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
24	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
25	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
26	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
27	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
28	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
29	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4930	693. 0891	0979	1068	1156	1244	1332	1421	1509	1597	1685	88.1	
31	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
32	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
33	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
34	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
35	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
36	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
37	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
38	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
39	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4940	694. 0931	1019	1108	1196	1284	1372	1461	1549	1637	1725	88.0	
41	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
42	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
43	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
44	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
45	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
46	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
47	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
48	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
49	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4950	695. 0971	1059	1148	1236	1324	1412	1501	1589	1677	1765	87.9	
51	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
52	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
53	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
54	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
55	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
56	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
57	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
58	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
59	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4960	696. 1011	1099	1188	1276	1364	1452	1541	1629	1717	1805	87.8	
61	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
62	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
63	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
64	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
65	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
66	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
67	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
68	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
69	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4970	697. 1051	1139	1228	1316	1404	1492	1581	1669	1757	1845	87.7	
71	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
72	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
73	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
74	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
75	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
76	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
77	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
78	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
79	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4980	698. 1091	1179	1268	1356	1444	1532	1621	1709	1797	1885	87.6	
81	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
82	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
83	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
84	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
85	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
86	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
87	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
88	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
89	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
4990	699. 1131	1219	1308	1396	1484	1572	1661	1749	1837	1925	87.5	
91	1699	1788	1876	1965	2053	2141	2230	2318	2407	2495		
92	2584	2672	2760	2849	2937	3026	3114	3202	3291	3379		
93	3468	3556	3644	3733	3821	3910	3998	4086	4175	4263		
94	4352	4440	4528	4617	4705	4793	4882	4970	5058	5147		
95	5235	5324	5412	5500	5589	5677	5765	5854	5942	6030		
96	6119	6207	6295	6384	6472	6560	6649	6737	6825	6914	88.3	
97	7002	7090	7179	7267	7355	7444	7532	7620	7709	7797		
98	7885	7973	8062	8150	8238	8327	8415	8503	8592	8680		
99	8768	8856	8945	9033	9121	9210	9298	9386	9474	9563		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 49500. L. 694

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
4950	694	6052	6140	6227	6315	6403	6491	6578	6666	6754	6841	
51		6929	7017	7105	7192	7280	7368	7455	7543	7631	7719	
52		7806	7894	7982	8069	8157	8245	8332	8420	8508	8596	
53		8683	8771	8859	8946	9034	9122	9209	9297	9385	9472	
54		9560	9648	9735	9823	9911	9998	0086	0174	0261	0349	
55	695	0437	0524	0612	0699	0787	0875	0962	1050	1138	1225	87.6
56		1313	1401	1488	1576	1663	1751	1839	1926	2014	2102	
57		2189	2277	2364	2452	2540	2627	2715	2802	2890	2978	
58		3065	3153	3240	3328	3415	3503	3591	3678	3766	3853	
59		3941	4029	4116	4204	4291	4379	4466	4554	4642	4729	
4960		4817	4904	4992	5079	5167	5254	5342	5430	5517	5605	87.5
61		5692	5780	5867	5955	6042	6130	6217	6305	6392	6480	1-9
62		6568	6655	6743	6830	6918	7005	7093	7180	7268	7355	2-17
63		7443	7530	7618	7705	7793	7880	7968	8055	8143	8230	3-26
64		8318	8405	8493	8580	8668	8755	8843	8930	9018	9105	4-35
65		9193	9280	9367	9455	9542	9630	9717	9805	9892	9980	5-44
66	696	0067	0155	0242	0329	0417	0504	0592	0679	0767	0854	6-52
67		0942	1029	1116	1204	1291	1379	1466	1554	1641	1728	7-61
68		1816	1903	1991	2078	2165	2253	2340	2428	2515	2603	8-70
69		2690	2777	2865	2952	3040	3127	3214	3302	3389	3476	9-79
4970		3564	3651	3739	3826	3913	4001	4088	4175	4263	4350	
71		4438	4525	4612	4700	4787	4874	4962	5049	5136	5224	
72		5311	5398	5486	5573	5661	5748	5835	5923	6010	6097	87.3
73		6185	6272	6359	6447	6534	6621	6708	6796	6883	6970	
74		7058	7145	7232	7320	7407	7494	7582	7669	7756	7844	
75		7931	8018	8105	8193	8280	8367	8455	8542	8629	8716	
76		8804	8891	8978	9065	9153	9240	9327	9415	9502	9589	
77		9676	9764	9851	9938	0025	0113	0200	0287	0374	0462	
78	697	0549	0636	0723	0811	0898	0985	1072	1160	1247	1334	87.2
79		1421	1508	1596	1683	1770	1857	1945	2032	2119	2206	
4980		2293	2381	2468	2555	2642	2729	2817	2904	2991	3078	
81		3165	3253	3340	3427	3514	3601	3688	3776	3863	3950	
82		4037	4124	4212	4299	4386	4473	4560	4647	4734	4822	
83		4909	4996	5083	5170	5257	5345	5432	5519	5606	5693	87.1
84		5780	5867	5955	6042	6129	6216	6303	6390	6477	6564	
85		6652	6739	6826	6913	7000	7087	7174	7261	7348	7436	
86		7523	7610	7697	7784	7871	7958	8045	8132	8219	8307	
87		8394	8481	8568	8655	8742	8829	8916	9003	9090	9177	
88		9264	9351	9439	9526	9613	9700	9787	9874	9961	0048	
89	698	0135	0222	0309	0396	0483	0570	0657	0744	0831	0918	87
4990		1005	1092	1179	1266	1354	1441	1528	1615	1702	1789	
91		1876	1963	2050	2137	2224	2311	2398	2485	2572	2659	87
92		2746	2833	2920	3007	3094	3181	3268	3355	3442	3529	1-9
93		3616	3703	3790	3877	3964	4050	4137	4224	4311	4398	2-17
94		4485	4572	4659	4746	4833	4920	5007	5094	5181	5268	3-26
95		5355	5442	5529	5616	5703	5790	5877	5963	6050	6137	4-35
96		6224	6311	6398	6485	6572	6659	6746	6833	6920	7007	5-43
97		7093	7180	7267	7354	7441	7528	7615	7702	7789	7876	6-52
98		7963	8049	8136	8223	8310	8397	8484	8571	8658	8744	7-61
99		8831	8918	9005	9092	9179	9266	9353	9439	9526	9613	8-70
												9-78
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.

N. 50000. L. 698.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5000	698.9700	9787	9874	9961	0047	0134	0221	0308	0395	0482		87
01	699.0569	0655	0742	0829	0916	1003	1090	1176	1263	1350	86.8	1-9
02	1437	1524	1610	1697	1784	1871	1958	2045	2131	2218		2-17
03	2305	2392	2479	2565	2652	2739	2826	2913	2999	3086		3-26
04	3173	3260	3347	3433	3520	3607	3694	3780	3867	3954		4-35
05	4041	4128	4214	4301	4388	4475	4561	4648	4735	4822		5-43
06	4908	4995	5082	5169	5255	5342	5429	5516	5602	5689	86.7	6-52
07	5776	5863	5949	6036	6123	6210	6296	6383	6470	6556		7-61
08	6643	6730	6817	6903	6990	7077	7163	7250	7337	7424		8-70
09	7510	7597	7684	7770	7857	7944	8030	8117	8204	8291		9-78
5010	8377	8464	8551	8637	8724	8811	8897	8984	9071	9157		
11	9244	9331	9417	9504	9591	9677	9764	9851	9937	0024		
12	700.0111	0197	0284	0371	0457	0544	0630	0717	0804	0890	86.6	
13	0977	1064	1150	1237	1324	1410	1497	1583	1670	1757		
14	1843	1930	2016	2103	2190	2276	2363	2450	2536	2623		
15	2709	2796	2883	2969	3056	3142	3229	3315	3402	3489		
16	3575	3662	3748	3835	3922	4008	4095	4181	4268	4354		
17	4441	4528	4614	4701	4787	4874	4960	5047	5133	5220		
18	5307	5393	5480	5566	5653	5739	5826	5912	5999	6085	86.5	
19	6172	6258	6345	6431	6518	6605	6691	6778	6864	6951		
5020	7037	7124	7210	7297	7383	7470	7556	7643	7729	7816		86.5
21	7902	7989	8075	8162	8248	8335	8421	8508	8594	8681		1-9
22	8767	8854	8940	9026	9113	9199	9286	9372	9459	9545		2-17
23	9632	9718	9805	9891	9978	0064	0150	0237	0323	0410		3-26
24	701.0496	0583	0669	0756	0842	0928	1015	1101	1188	1274	86.4	4-35
25	1361	1447	1533	1620	1706	1793	1879	1966	2052	2138		5-43
26	2225	2311	2398	2484	2570	2657	2743	2830	2916	3002		6-52
27	3089	3175	3262	3348	3434	3521	3607	3694	3780	3866		7-61
28	3953	4039	4125	4212	4298	4384	4471	4557	4644	4730		8-69
29	4816	4903	4989	5075	5162	5248	5334	5421	5507	5593	86.3	9-78
5030	5680	5766	5852	5939	6025	6111	6198	6284	6370	6457		
31	6543	6629	6716	6802	6888	6975	7061	7147	7234	7320		
32	7406	7493	7579	7665	7751	7838	7924	8010	8097	8183		
33	8269	8356	8442	8528	8614	8701	8787	8873	8960	9046		
34	9132	9218	9305	9391	9477	9563	9650	9736	9822	9908		
35	9995	0081	0167	0253	0340	0426	0512	0598	0685	0771	86.2	
36	702.0857	0943	1030	1116	1202	1288	1375	1461	1547	1633		
37	1720	1806	1892	1978	2064	2151	2237	2323	2409	2495		
38	2582	2668	2754	2840	2926	3013	3099	3185	3271	3357		
39	3444	3530	3616	3702	3788	3874	3961	4047	4133	4219		
5040	4305	4391	4478	4564	4650	4736	4822	4908	4995	5081		
41	5167	5253	5339	5425	5512	5598	5684	5770	5856	5942	86.1	
42	6028	6114	6201	6287	6373	6459	6545	6631	6717	6804		
43	6890	6976	7062	7148	7234	7320	7406	7492	7579	7665		
44	7751	7837	7923	8009	8095	8181	8267	8353	8439	8526		
45	8612	8698	8784	8870	8956	9042	9128	9214	9300	9386		
46	9472	9558	9645	9731	9817	9903	9989	0075	0161	0247		
47	703.0333	0419	0505	0591	0677	0763	0849	0935	1021	1105	86	
48	1193	1279	1365	1452	1538	1624	1710	1796	1882	1968		
49	2054	2140	2226	2312	2398	2484	2570	2656	2742	2828		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 50500. L. 703

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5050	703	2914	3000	3086	3172	3258	3344	3430	3506	3602	3688	86
51		3774	3860	3946	4032	4118	4204	4289	4375	4461	4547	1-9
52		4633	4719	4805	4891	4977	5063	5149	5235	5321	5407	2-17
53		5493	5579	5665	5751	5837	5923	6009	6095	6180	6266	85.9
54		6352	6438	6524	6610	6696	6782	6868	6954	7040	7126	4-34
55		7212	7297	7383	7469	7555	7641	7727	7813	7899	7985	5-43
56		8071	8156	8242	8328	8414	8500	8586	8672	8758	8844	6-52
57		8930	9015	9101	9187	9273	9359	9445	9531	9616	9702	7-60
58		9788	9874	9960	0046	0132	0217	0303	0389	0475	0561	8-69
59	704	0647	0733	0818	0904	0990	1076	1162	1248	1333	1419	85.8
60		1505	1591	1677	1763	1848	1934	2020	2106	2192	2278	
61		2363	2449	2535	2621	2707	2792	2878	2964	3050	3136	
62		3221	3307	3393	3479	3565	3652	3738	3823	3908	3993	
63		4079	4165	4251	4337	4422	4508	4594	4680	4765	4851	
64		4937	5023	5108	5194	5280	5366	5451	5537	5623	5709	
65		5794	5880	5966	6052	6137	6223	6309	6395	6480	6566	85.7
66		6652	6738	6823	6909	6995	7080	7166	7252	7338	7423	
67		7509	7595	7680	7766	7852	7938	8023	8109	8195	8280	
68		8366	8452	8537	8623	8709	8794	8880	8966	9052	9137	
69		9223	9309	9394	9480	9566	9651	9737	9823	9908	9994	
70	705	0080	0165	0251	0337	0422	0508	0593	0679	0765	0850	
71		0936	1022	1107	1193	1279	1364	1450	1536	1621	1707	85.6
72		1792	1878	1964	2049	2135	2221	2306	2392	2477	2563	
73		2649	2734	2820	2905	2991	3077	3162	3248	3333	3419	
74		3505	3590	3676	3761	3847	3933	4018	4104	4189	4275	
75		4360	4446	4532	4617	4703	4788	4874	4959	5045	5131	
76		5216	5302	5387	5473	5558	5644	5729	5815	5900	5986	
77		6072	6157	6243	6328	6414	6499	6585	6670	6756	6841	85.5
78		6927	7012	7098	7183	7269	7355	7440	7526	7611	7697	
79		7782	7868	7953	8039	8124	8210	8295	8381	8466	8552	
80		8637	8723	8808	8894	8979	9065	9150	9235	9321	9406	85.4
81		9492	9577	9663	9748	9834	9919	0005	0090	0176	0261	1-9
82	706	0347	0432	0517	0603	0688	0774	0859	0945	1030	1116	85.4
83		1201	1286	1372	1457	1543	1628	1714	1799	1885	1970	3-26
84		2055	2141	2226	2312	2397	2482	2568	2653	2739	2824	4-34
85		2912	2994	3080	3166	3251	3337	3422	3507	3593	3678	5-43
86		3764	3849	3934	4020	4105	4190	4276	4361	4447	4532	6-51
87		4617	4703	4788	4873	4959	5044	5130	5215	5300	5386	7-60
88		5471	5556	5642	5727	5812	5898	5983	6068	6154	6239	85.3
89		6325	6410	6495	6580	6666	6751	6836	6922	7007	7092	9-77
90		7178	7263	7348	7434	7519	7604	7690	7775	7860	7946	
91		8051	8136	8222	8307	8392	8477	8563	8648	8733	8819	
92		8884	8969	9054	9140	9225	9310	9396	9481	9566	9651	
93		9737	9822	9907	9993	0078	0163	0248	0334	0419	0504	85.2
94	707	0589	0675	0760	0845	0930	1016	1101	1186	1271	1357	
95		1442	1527	1612	1698	1783	1868	1953	2038	2124	2209	
96		2294	2379	2465	2550	2635	2720	2805	2891	2976	3061	
97		3146	3231	3317	3402	3487	3572	3657	3743	3828	3913	
98		3998	4083	4169	4254	4339	4424	4509	4595	4680	4765	
99		4850	4935	5020	5106	5191	5276	5361	5446	5531	5617	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 51000. L. 707											Logarithms		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.	
5100	707	5702	5787	5872	5957	6042	6127	6213	6298	6383	6468	85.1	
01		6553	6638	6723	6809	6894	6979	7064	7149	7234	7319		
02		7405	7490	7575	7660	7745	7830	7915	8000	8085	8171		
03		8256	8341	8426	8511	8596	8681	8766	8851	8936	9022		
04		9107	9192	9277	9362	9447	9532	9617	9702	9787	9872		
05		9957	0042	0128	0213	0298	0383	0468	0553	0638	0723		
06	708	0808	0893	0978	1063	1148	1233	1318	1403	1488	1573	85	
07		1659	1744	1829	1914	1999	2084	2169	2254	2339	2424		
08		2509	2594	2679	2764	2849	2934	3019	3104	3189	3274		
09		3359	3444	3529	3614	3699	3784	3869	3954	4039	4124		
5110		4209	4294	4379	4464	4549	4634	4719	4804	4889	4974	85	
11		5059	5144	5229	5314	5399	5484	5569	5654	5738	5823	1-8	
12		5908	5993	6078	6163	6248	6333	6418	6503	6588	6673	84.9	
13		6758	6843	6928	7013	7098	7183	7267	7352	7437	7522	2-17	
14		7607	7692	7777	7862	7947	8032	8117	8202	8287	8371	3-25	
15		8456	8541	8626	8711	8796	8881	8966	9051	9136	9220	4-34	
16		9305	9390	9475	9560	9645	9730	9815	9899	9984	0069	5-42	
17	709	0154	0239	0324	0409	0494	0578	0663	0748	0833	0918	6-51	
18		1003	1088	1172	1257	1342	1427	1512	1597	1682	1766	7-59	
19		1851	1936	2021	2106	2191	2275	2360	2445	2530	2615	84.8	
5120		2700	2784	2869	2954	3039	3124	3208	3293	3378	3463	8-68	
21		3548	3633	3717	3802	3887	3972	4057	4141	4226	4311	9-76	
22		4396	4480	4565	4650	4735	4820	4904	4989	5074	5159		
23		5244	5328	5413	5498	5583	5667	5752	5837	5922	6006		
24		6091	6176	6261	6345	6430	6515	6600	6684	6769	6854	84.7	
25		6939	7023	7108	7193	7278	7362	7447	7532	7617	7701		
26		7786	7871	7955	8040	8125	8210	8294	8379	8464	8548		
27		8633	8718	8803	8887	8972	9057	9141	9226	9311	9395		
28		9480	9565	9649	9734	9819	9904	9988	0073	0158	0242		
29	710	0327	0412	0496	0581	0666	0750	0835	0920	1004	1089		
5130		1174	1258	1343	1428	1512	1597	1682	1766	1851	1935	84.6	
31		2020	2105	2189	2274	2359	2443	2528	2613	2697	2782		
32		2866	2951	3036	3120	3205	3290	3374	3459	3543	3628		
33		3713	3797	3882	3966	4051	4136	4220	4305	4389	4474		
34		4559	4643	4728	4812	4897	4982	5066	5151	5235	5320		
35		5404	5489	5574	5658	5743	5827	5912	5996	6081	6165		
36		6250	6335	6419	6504	6588	6673	6757	6842	6927	7011		
37		7096	7180	7265	7349	7434	7518	7603	7687	7772	7856	84.5	
38		7941	8025	8110	8195	8279	8364	8448	8533	8617	8702		
39		8786	8871	8955	9040	9124	9209	9293	9378	9462	9547		
5140		9631	9716	9800	9885	9969	0054	0138	0223	0307	0392	84.4	
41	711	0476	0560	0645	0729	0814	0898	0983	1067	1152	1236	1-8	
42		1321	1405	1490	1574	1659	1743	1827	1912	1996	2081	2-17	
43		2165	2250	2334	2419	2503	2587	2672	2756	2841	2925	84.4	
44		3013	3094	3178	3263	3347	3432	3516	3601	3685	3769	3-25	
45		3854	3938	4023	4107	4191	4276	4360	4445	4529	4613	4-34	
46		4698	4782	4867	4951	5035	5120	5204	5288	5373	5457	5-42	
47		5542	5626	5710	5795	5879	5964	6048	6132	6217	6301	6-51	
48		6385	6470	6554	6638	6723	6807	6891	6976	7060	7145	7-59	
49		7229	7313	7398	7482	7566	7651	7735	7819	7904	7988	8-68	
												84.3	
												9-76	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.	

to 101000.

N. 51500. L. 711

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5150	711.8072	8157	8241	8325	8410	8494	8578	8663	8747	8831		
51	8915	9000	9084	9168	9253	9337	9421	9506	9590	9674		
52	9759	9843	9927	0011	0096	0180	0264	0349	0433	0517		
53	712.0601	0686	0770	0854	0938	1023	1107	1191	1276	1360		
54	1444	1528	1613	1697	1781	1865	1950	2034	2118	2202		
55	2287	2371	2455	2539	2624	2708	2792	2876	2961	3045	84.2	
56	3129	3213	3297	3382	3466	3550	3634	3719	3803	3887		
57	3971	4055	4140	4224	4308	4392	4477	4561	4645	4729		
58	4813	4898	4982	5066	5150	5234	5318	5403	5487	5571		
59	5655	5739	5824	5908	5992	6076	6160	6244	6329	6413		
5160	6497	6581	6665	6749	6834	6918	7002	7086	7170	7254		
61	7339	7423	7507	7591	7675	7759	7843	7928	8012	8096	84.1	
62	8180	8264	8348	8432	8516	8601	8685	8769	8853	8937		
63	9021	9105	9189	9274	9358	9442	9526	9610	9694	9778		
64	9862	9946	0030	0115	0199	0283	0367	0451	0535	0619		
65	713.0703	0787	0871	0955	1040	1124	1208	1292	1375	1460		
66	1544	1628	1712	1796	1880	1964	2048	2132	2216	2301		
67	2385	2469	2553	2637	2721	2805	2889	2973	3057	3141	84	
68	3225	3309	3393	3477	3561	3645	3729	3813	3897	3981		
69	4065	4149	4233	4317	4401	4485	4569	4653	4737	4821		
5170	4905	4989	5073	5157	5241	5325	5409	5493	5577	5661		84
71	5745	5829	5913	5997	6081	6165	6249	6333	6417	6501	1-8	
72	6585	6669	6753	6837	6921	7005	7089	7173	7257	7341	2-17	
73	7425	7509	7593	7677	7761	7844	7928	8012	8096	8180	83.9	3-25
74	8264	8348	8432	8516	8600	8684	8768	8852	8936	9020	4-34	
75	9104	9188	9271	9355	9439	9523	9607	9691	9775	9859	5-42	
76	9943	0027	0110	0194	0278	0362	0446	0530	0614	0698	6-50	
77	714.0782	0865	0949	1033	1117	1201	1285	1369	1453	1537	7-59	
78	1620	1704	1788	1872	1956	2040	2124	2207	2291	2375	8-67	
79	2459	2543	2627	2711	2794	2878	2962	3046	3130	3214	83.8	9-76
5180	3298	3381	3465	3549	3633	3717	3801	3884	3968	4052		
81	4136	4220	4304	4387	4471	4555	4639	4723	4806	4890		
82	4974	5058	5142	5225	5309	5393	5477	5561	5644	5728		
83	5812	5896	5980	6063	6147	6231	6315	6399	6482	6566		
84	6650	6734	6817	6901	6985	7069	7153	7236	7320	7404		
85	7488	7571	7655	7739	7823	7906	7990	8074	8158	8241		
86	8325	8409	8493	8576	8660	8744	8827	8911	8995	9079	83.7	
87	9162	9246	9330	9414	9497	9581	9665	9748	9832	9916		
88	715.0000	0083	0167	0251	0334	0418	0502	0586	0669	0753		
89	0837	0920	1004	1088	1171	1255	1339	1422	1505	1590		
5190	1674	1757	1841	1925	2008	2092	2176	2259	2343	2427		83.5
91	2510	2594	2678	2761	2845	2929	3012	3096	3179	3263	1-8	
92	3347	3430	3514	3598	3681	3765	3849	3932	4016	4100	83.6	2-17
93	4183	4267	4350	4434	4518	4601	4685	4769	4852	4936	3-25	
94	5019	5103	5187	5270	5354	5437	5521	5605	5688	5772	4-33	
95	5856	5939	6023	6106	6190	6273	6357	6441	6524	6608	5-42	
96	6691	6775	6859	6942	7026	7109	7193	7276	7360	7444	6-50	
97	7527	7611	7694	7778	7861	7945	8028	8112	8196	8279	7-58	
98	8363	8446	8530	8613	8697	8780	8864	8948	9031	9115	83.5	8-67
99	9198	9282	9365	9449	9532	9616	9699	9783	9866	9950	9-75	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 42000. L. 716.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pos.
5200	716.0033	0117	0200	0284	0357	0451	0534	0618	0701	0785		89
01	0809	0952	1035	1119	1202	1286	1369	1453	1536	1620		1-8
02	1703	1787	1870	1954	2037	2121	2204	2288	2371	2455		2-17
03	2538	2622	2705	2789	2872	2956	3039	3122	3206	3289		3-25
04	3373	3456	3540	3623	3707	3790	3874	3957	4040	4124	83	4-33
05	4207	4291	4374	4458	4541	4624	4708	4791	4875	4958		5-42
06	5042	5125	5208	5292	5375	5459	5542	5625	5709	5792		6-50
07	5876	5959	6043	6126	6209	6293	6376	6460	6543	6626		7-58
08	6710	6793	6876	6960	7043	7127	7210	7293	7377	7460		8-67
09	7544	7627	7710	7794	7877	7960	8044	8127	8210	8294		9-75
5210	8377	8461	8544	8627	8711	8794	8877	8961	9044	9127	83	3
11	9211	9294	9377	9461	9544	9627	9711	9794	9877	9961		
12	717.0044	0127	0211	0294	0377	0461	0544	0627	0711	0794		
13	0877	0960	1044	1127	1210	1294	1377	1460	1544	1627		
14	1710	1794	1877	1960	2043	2127	2210	2293	2377	2460		
15	2543	2626	2710	2793	2876	2959	3043	3126	3209	3293		
16	3376	3459	3542	3626	3709	3792	3875	3959	4042	4125		
17	4208	4292	4375	4458	4541	4625	4708	4791	4874	4957	83	2
18	5041	5124	5207	5290	5374	5457	5540	5623	5706	5790		
19	5873	5956	6039	6123	6206	6289	6372	6455	6539	6622		
5220	6705	6788	6871	6955	7038	7121	7204	7287	7371	7454		
21	7537	7620	7703	7786	7870	7953	8036	8119	8202	8285		
22	8369	8452	8535	8618	8701	8784	8868	8951	9034	9117		
23	9200	9283	9366	9449	9533	9616	9699	9782	9865	9948	83	1
24	718.0032	0115	0198	0281	0364	0447	0530	0614	0697	0780		
25	0863	0946	1029	1112	1195	1278	1362	1445	1528	1611		
26	1694	1777	1860	1943	2026	2109	2193	2276	2359	2442		
27	2525	2608	2691	2774	2857	2940	3023	3107	3190	3273		
28	3356	3439	3522	3605	3688	3771	3854	3937	4020	4103		
29	4186	4269	4352	4436	4519	4602	4685	4768	4851	4934	83	
5230	5017	5100	5183	5266	5349	5432	5515	5598	5681	5764		83
31	5847	5930	6013	6096	6179	6262	6345	6428	6511	6594		1-8
32	6677	6760	6843	6926	7009	7092	7175	7258	7341	7424		2-17
33	7507	7590	7673	7756	7839	7922	8005	8088	8171	8254		3-25
34	8337	8420	8503	8586	8669	8752	8835	8918	9001	9084		4-33
35	9167	9250	9333	9416	9499	9582	9665	9748	9831	9914		5-41
36	9996	0079	0162	0245	0328	0411	0494	0577	0660	0743	82	9
37	719.0826	0909	0992	1074	1157	1240	1323	1406	1489	1572		7-58
38	1655	1738	1821	1904	1987	2069	2152	2235	2318	2401		8-66
39	2484	2567	2650	2733	2816	2898	2981	3064	3147	3230		9-75
5240	3313	3396	3479	3561	3644	3727	3810	3893	3976	4059		
41	4142	4224	4307	4390	4473	4556	4639	4722	4804	4887		
42	4970	5053	5136	5219	5301	5384	5467	5550	5633	5716	82	8
43	5799	5881	5964	6047	6130	6213	6295	6378	6461	6544		
44	6627	6710	6792	6875	6958	7041	7124	7206	7289	7372		
45	7455	7538	7620	7703	7786	7869	7952	8034	8117	8200		
46	8283	8366	8448	8531	8614	8697	8779	8862	8945	9028		
47	9111	9193	9276	9359	9442	9524	9607	9690	9773	9855		
48	9938	0021	0104	0186	0269	0352	0435	0517	0600	0683		
49	720.0766	0848	0931	1014	1097	1179	1262	1345	1428	1510	82	7
Num	0	1	2	3	4	5	6	7	8	9	D	Pos.

to 101000.

N. 52500. L. 720

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5250	720.	1593	1676	1758	1841	1924	2007	2089	2172	2255	2337	
51		2420	2503	2586	2668	2751	2834	2916	2999	3082	3164	
52		3247	3330	3413	3495	3578	3661	3743	3826	3909	3991	
53		4074	4157	4239	4322	4405	4487	4570	4653	4735	4818	
54		4901	4983	5066	5149	5231	5314	5397	5479	5562	5645	
55		5727	5810	5892	5975	6058	6140	6223	6306	6388	6471	82.5
56		6554	6636	6719	6801	6884	6967	7049	7132	7214	7297	
57		7380	7462	7545	7628	7710	7793	7875	7958	8041	8123	
58		8206	8288	8371	8454	8536	8619	8701	8784	8866	8949	
59		9032	9114	9197	9279	9362	9445	9527	9610	9692	9775	
5260		9857	9940	0023	0105	0188	0270	0353	0435	0518	0600	82.5
61	721.	0683	0766	0848	0931	1013	1096	1178	1261	1343	1426	82.5 1-8
62		1508	1591	1673	1756	1839	1921	2004	2086	2169	2251	2-16
63		2334	2416	2499	2581	2664	2746	2829	2911	2994	3076	3-25
64		3159	3241	3324	3406	3489	3571	3654	3736	3819	3901	4-33
65		3984	4066	4149	4231	4314	4396	4479	4561	4644	4726	5-41
66		4809	4891	4973	5056	5138	5221	5303	5386	5468	5551	6-49
67		5633	5715	5798	5880	5963	6045	6128	6210	6293	6375	82.4 7-58
68		6458	6540	6622	6705	6787	6870	6952	7035	7117	7200	8-66
69		7282	7364	7447	7529	7612	7694	7776	7859	7941	8024	9-74
5270		8106	8189	8271	8353	8436	8518	8601	8683	8765	8848	
71		8930	9013	9095	9177	9260	9342	9424	9507	9589	9672	
72		9754	9836	9919	0001	0083	0166	0248	0331	0413	0495	
73	722.	0578	0660	0742	0825	0907	0989	1072	1154	1237	1319	
74		1401	1484	1566	1648	1731	1813	1895	1978	2060	2142	82.3
75		2225	2307	2389	2472	2554	2636	2719	2801	2883	2966	
76		3048	3130	3212	3295	3377	3459	3542	3624	3706	3789	
77		3871	3953	4035	4118	4200	4282	4365	4447	4529	4612	
78		4694	4776	4858	4941	5023	5105	5187	5270	5352	5434	
79		5517	5599	5681	5763	5846	5928	6010	6092	6175	6257	
5280		6339	6421	6504	6586	6668	6750	6833	6915	6997	7079	82.2
81		7162	7244	7326	7408	7491	7573	7655	7737	7819	7902	82 1-8
82		7984	8066	8148	8231	8313	8395	8477	8559	8642	8724	2-16
83		8806	8888	8970	9053	9135	9217	9299	9381	9464	9546	3-25
84		9628	9710	9792	9875	9957	0039	0121	0203	0286	0368	4-33
85	723.	0450	0532	0614	0696	0779	0861	0943	1025	1107	1189	5-41
86		1272	1354	1436	1518	1600	1682	1764	1847	1929	2011	6-49
87		2093	2175	2257	2339	2422	2504	2586	2668	2750	2832	82.1 7-57
88		2914	2997	3079	3161	3243	3325	3407	3489	3571	3654	8-66
89		3736	3818	3900	3982	4064	4146	4228	4310	4392	4475	9-74
5290		4557	4639	4721	4803	4885	4967	5049	5131	5213	5295	
91		5378	5460	5542	5624	5706	5788	5870	5952	6034	6116	
92		6198	6280	6362	6444	6527	6609	6691	6773	6855	6937	
93		7019	7101	7183	7265	7347	7429	7511	7593	7675	7757	82
94		7839	7921	8003	8086	8167	8249	8332	8414	8496	8578	
95		8660	8742	8824	8906	8988	9070	9152	9234	9316	9398	
96		9480	9562	9644	9726	9808	9890	9972	0054	0136	0218	
97	724.	0300	0382	0464	0546	0628	0710	0792	0874	0956	1038	
98		1120	1201	1283	1365	1447	1529	1611	1693	1775	1857	
99		1939	2021	2103	2185	2267	2349	2431	2513	2595	2677	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5300	724.2759	2841	2923	3005	3086	3168	3250	3332	3414	3496	81.9	82
01	3578	3660	3742	3824	3905	3988	4070	4151	4233	4315		1-8
02	4397	4479	4561	4643	4725	4807	4889	4971	5052	5134		2-16
03	5216	5298	5380	5462	5544	5626	5708	5789	5871	5953		3-25
04	6035	6117	6199	6281	6363	6444	6526	6608	6690	6772		4-33
05	6854	6936	7018	7099	7181	7263	7345	7427	7509	7591		5-41
06	7672	7754	7836	7918	8000	8082	8163	8245	8327	8409	81.8	6-49
07	8491	8573	8654	8736	8818	8900	8982	9064	9145	9227		7-57
08	9309	9391	9473	9555	9636	9718	9800	9882	9964	0045		8-66
09	725.0127	0209	0291	0373	0454	0536	0618	0700	0782	0863		9-74
5310	0945	1027	1109	1191	1272	1354	1436	1518	1599	1681		
11	1763	1845	1927	2008	2090	2172	2254	2335	2417	2499		
12	2581	2662	2744	2826	2908	2989	3071	3153	3235	3316	81.7	
13	3398	3480	3562	3643	3725	3807	3889	3970	4052	4134		
14	4216	4297	4379	4461	4542	4624	4706	4787	4869	4951		
15	5033	5114	5196	5278	5359	5441	5523	5605	5686	5768		
16	5850	5931	6013	6095	6176	6258	6340	6422	6503	6585		
17	6667	6748	6830	6912	6993	7075	7157	7238	7320	7402		
18	7483	7565	7647	7728	7810	7892	7973	8055	8137	8218		
19	8300	8382	8463	8545	8626	8708	8790	8871	8953	9035	81.6	
5320	9116	9198	9280	9361	9443	9524	9606	9688	9769	9851		
21	9933	0014	0096	0177	0259	0341	0422	0504	0585	0667		
22	726.0749	0830	0912	0993	1075	1157	1238	1320	1401	1483		
23	1565	1646	1728	1809	1891	1973	2054	2136	2217	2299		
24	2380	2462	2544	2625	2707	2788	2870	2951	3033	3115		
25	3196	3278	3359	3441	3522	3604	3685	3767	3848	3930		
26	4012	4093	4175	4256	4338	4419	4501	4582	4664	4745	81.5	
27	4827	4908	4990	5071	5153	5235	5316	5398	5479	5561		
28	5642	5724	5805	5887	5968	6050	6131	6213	6294	6376		
29	6457	6539	6620	6702	6783	6865	6946	7028	7109	7191		
5330	7272	7354	7435	7516	7598	7679	7761	7842	7924	8005		81.5
31	8087	8168	8250	8331	8413	8494	8576	8657	8738	8820		1-8
32	8901	8983	9064	9146	9227	9309	9390	9471	9553	9634	81.4	2-16
33	9716	9797	9879	9960	0042	0123	0204	0286	0367	0449		3-24
34	727.0530	0611	0693	0774	0856	0937	1019	1100	1181	1263		4-33
35	1344	1426	1507	1588	1670	1751	1833	1914	1995	2077		5-41
36	2158	2240	2321	2402	2484	2565	2646	2728	2809	2891		6-49
37	2972	3053	3135	3216	3297	3379	3460	3542	3623	3704		7-57
38	3786	3867	3948	4030	4111	4192	4274	4355	4436	4518		8-65
39	4599	4681	4762	4843	4925	5006	5087	5169	5250	5331	81.3	9-73
5340	5413	5494	5575	5656	5738	5819	5900	5982	6063	6144		
41	6226	6307	6388	6470	6551	6632	6714	6795	6876	6957		
42	7039	7120	7201	7283	7364	7445	7527	7608	7689	7770		
43	7852	7933	8014	8096	8177	8258	8339	8421	8502	8583		
44	8664	8746	8827	8908	8990	9071	9152	9233	9315	9396		
45	9477	9558	9640	9721	9802	9883	9965	0046	0127	0208	81.2	
46	728.0290	0371	0452	0533	0614	0696	0777	0858	0939	1021		
47	1102	1183	1264	1345	1427	1508	1589	1670	1752	1833		
48	1914	1995	2076	2158	2239	2320	2401	2482	2564	2645		
49	2726	2807	2888	2969	3051	3132	3213	3294	3375	3457		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5350	728.3558	3619	3700	3781	3862	3944	4025	4106	4187	4268		
51	4350	4431	4512	4593	4674	4755	4836	4918	4999	5080		
52	5161	5242	5323	5404	5486	5567	5648	5729	5810	5891	81.1	
53	5972	6054	6135	6216	6297	6378	6459	6540	6621	6703		
54	6784	6865	6946	7027	7108	7189	7270	7351	7432	7514		
55	7595	7676	7757	7838	7919	8000	8081	8162	8243	8325		
56	8406	8487	8568	8649	8730	8811	8892	8973	9054	9135		
57	9216	9297	9379	9460	9541	9622	9703	9784	9865	9946		
58	729.0027	0108	0189	0270	0351	0432	0513	0594	0675	0756	81	
59	0838	0919	1000	1081	1162	1243	1324	1405	1486	1567		
5360	1648	1729	1810	1891	1972	2053	2134	2215	2296	2377		81
61	2458	2539	2620	2701	2782	2863	2944	3025	3106	3187		1-8
62	3268	3349	3430	3511	3592	3673	3754	3835	3916	3997		2-16
63	4078	4159	4240	4321	4402	4483	4564	4645	4726	4807		3-24
64	4888	4969	5050	5131	5211	5292	5373	5454	5535	5616		4-32
65	5697	5778	5859	5940	6021	6102	6183	6264	6345	6426	80.9	5-40
66	6507	6588	6668	6749	6830	6911	6992	7073	7154	7235		6-49
67	7316	7397	7478	7559	7640	7720	7801	7882	7963	8044		7-57
68	8125	8206	8287	8368	8449	8530	8610	8691	8772	8853		8-65
69	8934	9015	9096	9177	9258	9338	9419	9500	9581	9662		9-73
5370	9743	9824	9905	9985	0066	0147	0228	0309	0390	0471		
71	730.0552	0632	0713	0794	0875	0956	1037	1117	1198	1279		
72	1360	1441	1522	1603	1683	1764	1845	1926	2007	2088	80.8	
73	2168	2249	2330	2411	2492	2572	2653	2734	2815	2896		
74	2977	3057	3138	3219	3300	3381	3461	3542	3623	3704		
75	3785	3865	3946	4027	4108	4189	4269	4350	4431	4512		
76	4593	4673	4754	4835	4916	4996	5077	5158	5239	5320		
77	5400	5481	5562	5643	5723	5804	5885	5966	6046	6127		
78	6208	6289	6369	6450	6531	6612	6692	6773	6854	6935	80.7	
79	7015	7096	7177	7258	7338	7419	7500	7581	7661	7742		
5380	7823	7903	7984	8065	8146	8226	8307	8388	8468	8549		
81	8630	8711	8791	8872	8953	9033	9114	9195	9275	9356		
82	9437	9518	9598	9679	9760	9840	9921	0002	0082	0163		
83	731.0244	0324	0405	0486	0566	0647	0728	0808	0889	0970		
84	1051	1131	1212	1292	1373	1454	1534	1615	1696	1776		
85	1857	1938	2018	2099	2180	2260	2341	2422	2502	2583	80.6	
86	2663	2744	2825	2905	2986	3067	3147	3228	3308	3389		
87	3470	3550	3631	3712	3792	3873	3953	4034	4115	4195		
88	4276	4356	4437	4518	4598	4679	4759	4840	4921	5001		
89	5082	5162	5243	5324	5404	5485	5565	5646	5726	5807		
5390	5888	5968	6049	6129	6210	6290	6371	6452	6532	6613		80.5
91	6693	6774	6854	6935	7015	7096	7177	7257	7338	7419		1-8
92	7499	7579	7660	7740	7821	7901	7982	8063	8143	8224	80.5	2-16
93	8304	8385	8465	8546	8626	8707	8787	8868	8948	9029		3-24
94	9109	9190	9270	9351	9431	9512	9592	9673	9753	9834		4-32
95	9914	9995	0075	0156	0236	0317	0397	0478	0558	0639		5-40
96	732.0719	0800	0880	0961	1041	1122	1202	1283	1363	1444		6-48
97	1524	1605	1685	1766	1846	1926	2007	2087	2168	2248		7-56
98	2329	2409	2490	2570	2651	2731	2811	2892	2972	3053	80.4	8-64
99	3133	3214	3294	3375	3455	3535	3616	3696	3777	3857		9-72
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5400	732.3938	4018	4098	4179	4259	4340	4420	4500	4581	4661		80-4
01	4742	4822	4903	4983	5063	5144	5224	5305	5385	5465		4-8
02	5546	5626	5707	5787	5867	5948	6028	6108	6189	6269		2-16
03	6350	6430	6510	6591	6671	6752	6832	6912	6993	7073		3-24
04	7153	7234	7314	7394	7475	7555	7636	7716	7796	7877		4-32
05	7957	8037	8118	8198	8278	8359	8439	8519	8600	8680	80-3	5-40
06	8760	8841	8921	9001	9082	9162	9242	9323	9403	9483		6-48
07	9564	9644	9724	9804	9885	9965	0046	0126	0206	0286		7-56
08	733.0367	0447	0527	0608	0688	0768	0849	0929	1009	1089		8-64
09	1170	1250	1330	1411	1491	1571	1651	1732	1812	1892		9-72
5410	1973	2053	2133	2213	2294	2374	2454	2534	2615	2695		
11	2775	2856	2936	3016	3096	3177	3257	3337	3417	3498		
12	3578	3658	3738	3819	3899	3979	4059	4140	4220	4300	80-2	
13	4380	4460	4541	4621	4701	4781	4862	4942	5022	5102		
14	5183	5263	5343	5423	5503	5584	5664	5744	5824	5904		
15	5985	6065	6145	6225	6305	6386	6466	6546	6626	6706		
16	6787	6867	6947	7027	7107	7187	7268	7348	7428	7508		
17	7588	7668	7749	7829	7909	7989	8069	8149	8230	8310		
18	8390	8470	8550	8630	8711	8791	8871	8951	9031	9111		
19	9192	9272	9352	9432	9512	9592	9672	9752	9833	9912	80-1	
5420	9993	0073	0153	0233	0313	0393	0474	0554	0634	0714		80
21	734.0794	0874	0954	1034	1114	1195	1275	1355	1435	1515		1-8
22	1595	1675	1755	1835	1915	1995	2076	2156	2236	2316		2-16
23	2396	2476	2556	2636	2716	2796	2876	2957	3037	3117		3-24
24	3197	3277	3357	3437	3517	3597	3677	3757	3837	3917		4-32
25	3997	4077	4157	4238	4318	4398	4478	4558	4638	4718	80	5-40
26	4798	4878	4958	5038	5118	5198	5278	5358	5438	5518		6-48
27	5598	5678	5758	5838	5918	5998	6078	6158	6238	6318		7-56
28	6398	6478	6558	6638	6718	6798	6878	6958	7038	7118		8-64
29	7198	7278	7358	7438	7518	7598	7678	7758	7838	7918		9-72
5430	7998	8078	8158	8238	8318	8398	8478	8558	8638	8718		
31	8798	8878	8958	9038	9118	9198	9278	9358	9438	9518		
32	9598	9678	9758	9837	9917	9997	0077	0157	0237	0317	79-9	
33	735.0397	0477	0557	0637	0717	0797	0877	0957	1036	1116		
34	1196	1276	1356	1436	1516	1596	1676	1756	1836	1916		
35	1995	2075	2155	2235	2315	2395	2475	2555	2635	2715		
36	2794	2874	2954	3034	3114	3194	3274	3354	3434	3513		
37	3593	3673	3753	3833	3913	3993	4073	4152	4232	4312		
38	4392	4472	4552	4632	4711	4791	4871	4951	5031	5111		
39	5191	5270	5350	5430	5510	5590	5670	5749	5829	5909	79-8	
5440	5989	6069	6149	6228	6308	6388	6468	6548	6628	6707		
41	6787	6867	6947	7027	7106	7186	7266	7346	7426	7506		
42	7585	7665	7745	7825	7905	7984	8064	8144	8224	8304		
43	8383	8463	8543	8623	8702	8782	8862	8942	9022	9101		
44	9181	9261	9341	9420	9500	9580	9660	9740	9819	9899		
45	9978	0059	0138	0218	0298	0378	0457	0537	0617	0697		
46	736.0776	0856	0936	1016	1095	1175	1255	1335	1414	1494	79-7	
47	1574	1653	1733	1813	1893	1972	2052	2132	2212	2291		
48	2371	2451	2530	2610	2690	2770	2849	2929	3009	3088		
49	3168	3248	3327	3407	3487	3567	3646	3726	3806	3885		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 54500. L. 736

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5450	736	3965	4045	4124	4204	4284	4363	4443	4523	4602	4682	
51		4762	4841	4921	5001	5080	5160	5240	5319	5399	5479	
52		5558	5638	5718	5797	5877	5957	6036	6116	6196	6275	
53		6355	6435	6514	6594	6673	6753	6833	6912	6992	7072	79-6
54		7151	7231	7311	7390	7470	7549	7629	7709	7788	7868	
55		7948	8027	8107	8186	8266	8346	8425	8505	8584	8664	
56		8744	8823	8903	8982	9062	9141	9221	9301	9380	9460	
57		9540	9619	9699	9778	9858	9937	0017	0097	0176	0256	
58	737	0335	0415	0494	0574	0654	0733	0813	0892	0972	1051	
59		1131	1210	1290	1370	1449	1529	1608	1688	1767	1847	79-5
5460		1926	2006	2086	2165	2245	2324	2404	2483	2563	2642	
61		2722	2801	2881	2960	3040	3119	3199	3278	3358	3437	79-5
62		3517	3596	3676	3755	3835	3914	3994	4073	4153	4232	1-4
63		4312	4391	4471	4550	4630	4709	4789	4868	4948	5027	2-1
64		5107	5186	5265	5345	5425	5504	5584	5663	5743	5822	3-24
65		5902	5981	6061	6140	6219	6299	6378	6458	6537	6617	4-3
66		6696	6776	6855	6935	7014	7093	7173	7252	7332	7411	5-46
67		7491	7570	7650	7729	7808	7888	7967	8047	8126	8206	6-4
68		8285	8364	8444	8523	8603	8682	8762	8841	8920	9000	7-5
69		9079	9159	9238	9317	9397	9476	9556	9635	9714	9794	8-64
5470		9873	9953	0032	0111	0191	0270	0350	0429	0508	0588	9-71
71	738	0667	0746	0825	0905	0985	1064	1143	1223	1302	1381	
72		1461	1540	1620	1699	1778	1858	1937	2016	2096	2175	
73		2254	2334	2413	2492	2572	2651	2731	2810	2889	2969	79-3
74		3048	3127	3207	3286	3365	3445	3524	3603	3683	3762	
75		3841	3921	4000	4079	4158	4238	4317	4396	4476	4555	
76		4634	4714	4793	4872	4952	5031	5110	5189	5269	5348	
77		5427	5507	5586	5665	5745	5824	5903	5982	6062	6141	
78		6220	6300	6379	6458	6537	6617	6696	6775	6854	6934	
79		7013	7092	7171	7251	7330	7409	7489	7568	7647	7726	
5480		7806	7885	7964	8043	8123	8202	8281	8360	8439	8519	79-2
81		8598	8677	8756	8836	8915	8994	9073	9153	9232	9311	
82		9390	9469	9549	9628	9707	9786	9866	9945	0024	0103	
83	739	0182	0262	0341	0420	0499	0578	0658	0737	0816	0895	
84		0974	1054	1133	1212	1291	1370	1450	1529	1608	1687	
85		1766	1845	1925	2004	2083	2162	2241	2320	2400	2479	
86		2558	2637	2716	2795	2875	2954	3033	3112	3191	3270	
87		3360	3429	3508	3587	3666	3745	3824	3904	3983	4062	79-1
88		4141	4220	4299	4378	4457	4537	4616	4695	4774	4853	
89		4932	5011	5090	5170	5249	5328	5407	5486	5565	5644	
5490		5723	5803	5882	5961	6040	6119	6198	6277	6356	6435	79
91		6514	6593	6673	6752	6831	6910	6989	7068	7147	7226	1-4
92		7305	7384	7463	7542	7622	7701	7780	7859	7938	8017	2-1
93		8096	8175	8254	8333	8412	8491	8570	8649	8728	8807	3-2
94		8887	8966	9045	9124	9203	9282	9361	9440	9519	9598	4-3
95		9677	9756	9835	9914	9993	0072	0151	0230	0309	0388	5-3
96	740	0467	0546	0625	0704	0783	0862	0941	1020	1099	1178	6-4
97		1257	1336	1415	1494	1573	1652	1731	1810	1889	1968	7-5
98		2047	2126	2205	2284	2363	2442	2521	2600	2679	2758	8-6
99		2837	2916	2995	3074	3153	3232	3311	3390	3469	3548	9-7
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N

N. 55000. L. 740.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5500	740.3627	3706	3785	3864	3943	4022	4101	4180	4259	4337		79
01		4416	4495	4574	4653	4732	4811	4890	4969	5048	78.9	1—8
02		5206	5285	5364	5443	5522	5600	5679	5758	5837		2—16
03		5995	6074	6153	6232	6311	6390	6469	6547	6626		3—24
04		6784	6863	6942	7021	7100	7179	7258	7337	7415		4—32
05		7573	7652	7731	7810	7889	7968	8047	8125	8204		5—39
06		8362	8441	8520	8599	8678	8756	8835	8914	8993		6—47
07		9151	9230	9308	9387	9466	9545	9624	9703	9782		7—55
08		9939	0018	0097	0176	0255	0333	0412	0491	0570	78.8	8—63
09	741.0728	0807	0885	0964	1043	1122	1201	1279	1358	1437		9—71
5510		1516	1595	1674	1752	1831	1910	1989	2068	2146		
11		2304	2383	2462	2540	2619	2698	2777	2856	2934		
12		3092	3171	3250	3328	3407	3486	3565	3644	3722		
13		3880	3959	4037	4116	4195	4274	4353	4431	4510		
14		4668	4746	4825	4904	4983	5061	5140	5219	5298		
15		5455	5534	5613	5691	5770	5849	5928	6006	6085	78.7	
16		6243	6321	6400	6479	6557	6636	6715	6794	6872		
17		7030	7109	7187	7266	7345	7423	7502	7581	7659		
18		7817	7896	7974	8053	8132	8210	8289	8368	8447		
19		8604	8683	8761	8840	8919	8997	9076	9155	9233		
5520		9391	9469	9548	9627	9705	9784	9863	9941	0020		
21	742.0177	0256	0335	0413	0492	0571	0649	0728	0807	0885		
22		0964	1043	1121	1200	1279	1357	1436	1514	1593	78.6	
23		1750	1829	1908	1986	2065	2144	2222	2301	2379		
24		2537	2615	2694	2773	2851	2930	3008	3087	3166		
25		3323	3401	3480	3559	3637	3716	3794	3873	3952		
26		4109	4187	4266	4345	4423	4502	4580	4659	4737		
27		4895	4973	5052	5130	5209	5287	5366	5445	5523		
28		5680	5759	5837	5916	5995	6073	6152	6230	6309		
29		6466	6544	6623	6701	6780	6859	6937	7016	7094	7173	78.5
5530		7251	7330	7408	7487	7565	7644	7722	7801	7879		78.5
31		8037	8115	8194	8272	8351	8429	8508	8586	8665		1—8
32		8822	8900	8979	9057	9136	9214	9293	9371	9450		2—16
33		9607	9685	9764	9842	9921	9999	0078	0156	0235		3—24
34	743.0392	0470	0548	0627	0705	0784	0862	0941	1019	1098		4—31
35		1176	1255	1333	1412	1490	1569	1647	1725	1804		5—39
36		1961	2039	2118	2196	2275	2353	2431	2510	2588	78.4	6—47
37		2745	2824	2902	2980	3059	3137	3216	3294	3373		7—55
38		3530	3608	3686	3765	3843	3922	4000	4078	4157		8—63
39		4314	4392	4470	4549	4627	4706	4784	4862	4941		9—71
5540		5098	5176	5254	5333	5411	5490	5568	5646	5725		
41		5882	5960	6038	6117	6195	6273	6352	6430	6508		
42		6665	6744	6822	6900	6979	7057	7135	7214	7292		
43		7449	7527	7605	7684	7762	7840	7919	7997	8075	78.3	
44		8232	8311	8389	8467	8545	8624	8702	8780	8859		
45		9016	9094	9172	9250	9329	9407	9485	9564	9642		
46		9799	9877	9955	0034	0112	0190	0268	0347	0425		
47	744.0582	0660	0738	0816	0895	0973	1051	1130	1208	1286		
48		1355	1443	1521	1599	1678	1756	1834	1912	1991		
49		2147	2225	2304	2382	2460	2539	2617	2695	2773		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 55500. L. 744

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5550	744	2930	3008	3086	3165	3243	3321	3399	3478	3556	3634	78.2
51		3712	3790	3869	3947	4025	4103	4182	4260	4338	4416	
52		4495	4573	4651	4729	4807	4886	4964	5042	5120	5198	
53		5277	5355	5433	5511	5590	5668	5746	5824	5902	5981	
54		6059	6137	6215	6293	6371	6450	6528	6606	6684	6762	
55		6841	6919	6997	7075	7153	7231	7310	7388	7466	7544	
56		7622	7700	7779	7857	7935	8013	8091	8169	8248	8326	
57		8404	8482	8560	8638	8717	8795	8873	8951	9029	9107	78.1
58		9185	9264	9342	9420	9498	9576	9654	9732	9810	9889	
59		9967	0045	0123	0201	0279	0357	0435	0514	0592	0670	
5560	745	0748	0826	0904	0982	1060	1138	1217	1295	1373	1451	78
61		1529	1607	1685	1763	1841	1919	1997	2076	2154	2232	1-8
62		2310	2388	2466	2544	2622	2700	2778	2856	2934	3012	2-16
63		3091	3169	3247	3325	3403	3481	3559	3637	3715	3793	3-23
64		3871	3949	4027	4105	4183	4261	4339	4418	4496	4574	78 4-31
65		4652	4730	4808	4886	4964	5042	5120	5198	5276	5354	5-39
66		5432	5510	5588	5666	5744	5822	5900	5978	6056	6134	6-47
67		6212	6290	6368	6446	6524	6602	6680	6758	6836	6914	7-55
68		6992	7070	7148	7226	7304	7382	7460	7538	7616	7694	8-62
69		7772	7850	7928	8006	8084	8162	8240	8318	8396	8474	9-70
5570		8552	8630	8708	8786	8864	8942	9020	9098	9176	9254	
71		9332	9409	9487	9565	9643	9721	9799	9877	9955	0033	77.9
72	746	0111	0189	0267	0345	0423	0501	0579	0657	0735	0812	
73		0890	0968	1046	1124	1202	1280	1358	1436	1514	1592	
74		1670	1748	1826	1903	1981	2059	2137	2215	2293	2371	
75		2449	2527	2604	2682	2760	2838	2916	2994	3072	3150	
76		3228	3305	3383	3461	3539	3617	3695	3773	3851	3929	
77		4006	4084	4162	4240	4318	4396	4474	4551	4629	4707	
78		4785	4863	4941	5019	5096	5174	5252	5330	5408	5486	
79		5564	5641	5719	5797	5875	5953	6031	6108	6186	6264	77.8
5580		6342	6420	6498	6575	6653	6731	6809	6887	6965	7042	
81		7120	7198	7276	7354	7431	7509	7587	7665	7743	7820	
82		7898	7976	8054	8132	8209	8287	8365	8443	8521	8598	
83		8676	8754	8832	8910	8987	9065	9143	9221	9298	9376	
84		9454	9532	9610	9687	9765	9843	9921	9998	0076	0154	
85	747	0232	0309	0387	0465	0543	0621	0698	0776	0854	0932	
86		1009	1087	1165	1242	1320	1398	1476	1553	1631	1709	77.7
87		1787	1864	1942	2020	2098	2175	2253	2331	2408	2486	
88		2564	2642	2719	2797	2875	2953	3030	3108	3186	3263	
89		3341	3419	3496	3574	3652	3730	3807	3885	3963	4040	
5590		4118	4196	4273	4351	4429	4505	4584	4662	4740	4817	77.5
91		4895	4973	5050	5128	5206	5283	5361	5439	5516	5594	1-8
92		5672	5749	5827	5905	5982	6060	6138	6215	6293	6370	2-15
93		6448	6526	6603	6681	6759	6836	6914	6992	7069	7147	77.6
94		7225	7302	7380	7457	7535	7613	7690	7768	7846	7923	4-31
95		8001	8078	8156	8234	8311	8389	8467	8544	8622	8699	5-39
96		8777	8855	8932	9010	9087	9165	9243	9320	9398	9475	6-46
97		9553	9631	9708	9786	9863	9941	0019	0096	0174	0251	7-54
98	748	0329	0406	0484	0562	0639	0717	0794	0872	0949	1027	8-62
99		1105	1182	1260	1337	1415	1492	1570	1648	1725	1803	9-70
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.56000. L.748.						Logarithms						
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5600	748.1880	1958	2035	2113	2190	2268	2346	2423	2501	2578	77-5	77-5
01	2656	2733	2811	2888	2966	3043	3121	3198	3276	3353		1-8
02	3431	3509	3586	3664	3741	3819	3896	3974	4051	4129		2-15
03	4206	4284	4361	4439	4516	4594	4671	4749	4826	4904		3-23
04	4981	5059	5136	5214	5291	5369	5446	5524	5601	5679		4-31
05	5756	5834	5911	5989	6066	6144	6221	6298	6376	6453		5-39
06	6531	6608	6686	6763	6841	6918	6996	7073	7151	7228		6-46
07	7306	7383	7460	7538	7615	7693	7770	7848	7925	8003	77-4	7-54
08	8080	8157	8235	8312	8390	8467	8545	8622	8699	8777		8-62
09	8854	8932	9009	9087	9164	9241	9319	9396	9474	9551		9-70
5610	9629	9706	9783	9861	9938	0016	0093	0170	0248	0325		
11	749.0403	0480	0557	0635	0712	0790	0867	0944	1022	1099		
12	1177	1254	1331	1409	1486	1563	1641	1718	1796	1873		
13	1950	2028	2105	2182	2260	2337	2415	2492	2569	2647		
14	2724	2801	2879	2956	3033	3111	3188	3266	3343	3420		
15	3498	3575	3652	3730	3807	3884	3962	4039	4116	4194	77-3	
16	4271	4348	4426	4503	4580	4658	4735	4812	4890	4967		
17	5044	5122	5199	5276	5353	5431	5508	5585	5663	5740		
18	5817	5895	5972	6049	6127	6204	6281	6358	6436	6513		
19	6590	6668	6745	6822	6899	6977	7054	7131	7209	7286		
5620	7363	7440	7518	7595	7672	7749	7827	7904	7981	8059		77
21	8136	8213	8290	8368	8445	8522	8599	8677	8754	8831		1-8
22	8908	8986	9063	9140	9217	9295	9372	9449	9526	9604	77-2	2-15
23	9681	9758	9835	9912	9990	0067	0144	0221	0299	0376		3-23
24	750.0453	0530	0608	0685	0762	0839	0916	0994	1071	1148		4-31
25	1225	1302	1380	1457	1534	1611	1688	1766	1843	1920		5-38
26	1997	2074	2152	2229	2306	2383	2460	2538	2615	2692		6-46
27	2769	2846	2923	3001	3078	3155	3232	3309	3387	3464		7-54
28	3541	3618	3695	3772	3849	3927	4004	4081	4158	4235		8-62
29	4312	4390	4467	4544	4621	4698	4775	4852	4930	5007	77-1	9-69
5630	5084	5161	5238	5315	5392	5470	5547	5624	5701	5778		
31	5855	5932	6009	6087	6164	6241	6318	6395	6472	6549		
32	6626	6704	6781	6858	6935	7012	7089	7166	7243	7320		
33	7398	7475	7552	7629	7706	7783	7860	7937	8014	8091		
34	8168	8245	8323	8400	8477	8554	8631	8708	8785	8862		
35	8939	9016	9093	9170	9247	9324	9402	9479	9556	9633		
36	9710	9787	9864	9941	0018	0095	0172	0249	0326	0403		
37	751.0480	0557	0634	0711	0788	0865	0943	1020	1097	1174	77	
38	1251	1328	1405	1482	1559	1636	1713	1790	1867	1944		
39	2021	2098	2175	2252	2329	2406	2483	2560	2637	2714		
5640	2791	2868	2945	3022	3099	3176	3253	3330	3407	3484		
41	3561	3638	3715	3792	3869	3946	4023	4100	4177	4254		
42	4331	4408	4485	4562	4639	4716	4793	4870	4947	5023		
43	5101	5177	5254	5331	5408	5485	5562	5639	5716	5793		
44	5870	5947	6024	6101	6178	6255	6332	6409	6486	6562	76-9	
45	6639	6716	6793	6870	6947	7024	7101	7178	7255	7332		
46	7409	7486	7563	7639	7716	7793	7870	7947	8024	8101		
47	8178	8255	8332	8409	8485	8562	8639	8716	8793	8870		
48	8947	9024	9101	9178	9254	9331	9408	9485	9562	9639		
49	9716	9793	9869	9946	0023	0100	0177	0254	0331	0408		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 56500. L. 752

Num	0	1	2	3	4	5	6	7	8	9	D	Pfs.
5650	752.0484	0561	0638	0715	0792	0869	0946	1022	1099	1176		
51	1253	1330	1407	1484	1560	1637	1714	1791	1868	1945	76.8	
52	2022	2098	2175	2252	2329	2406	2482	2559	2636	2713		
53	2790	2867	2943	3020	3097	3174	3251	3328	3404	3481		
54	3558	3635	3712	3788	3865	3942	4019	4096	4172	4249		
55	4326	4403	4480	4556	4633	4710	4787	4864	4940	5017		
56	5094	5171	5248	5324	5401	5478	5555	5631	5708	5785		
57	5862	5939	6015	6092	6169	6246	6322	6399	6476	6553		
58	6629	6706	6783	6860	6936	7013	7090	7167	7243	7320		
59	7397	7474	7550	7627	7704	7781	7857	7934	8011	8088	76.7	
5660	8164	8241	8318	8394	8471	8548	8625	8701	8778	8855		
61	8932	9008	9085	9162	9238	9315	9392	9468	9545	9622		
62	9699	9775	9852	9929	0005	0082	0159	0235	0312	0389		
63	753.0466	0542	0619	0696	0772	0849	0926	1002	1079	1155		
64	1232	1309	1386	1462	1539	1616	1692	1769	1846	1922		
65	1999	2076	2152	2229	2306	2382	2459	2536	2612	2689		
66	2766	2842	2919	2996	3072	3149	3226	3302	3379	3455	76.6	
67	3532	3609	3685	3762	3839	3915	3992	4068	4145	4222		
68	4298	4375	4452	4528	4605	4681	4758	4835	4911	4988		
69	5065	5141	5218	5294	5371	5448	5524	5601	5677	5754		
5670	5831	5907	5984	6060	6137	6213	6290	6367	6443	6520	76.5	
71	6596	6673	6750	6826	6903	6979	7056	7132	7209	7286	1-8	
72	7362	7439	7515	7592	7668	7745	7822	7898	7975	8051	2-15	
73	8128	8204	8281	8357	8434	8511	8587	8664	8740	8817	76.5	3-23
74	8893	8970	9046	9123	9199	9276	9352	9429	9506	9582	4-31	
75	9659	9735	9812	9888	9965	0041	0118	0194	0271	0347	5-38	
76	754.0424	0500	0577	0653	0730	0806	0883	0959	1036	1112	6-46	
77	1189	1265	1342	1418	1495	1571	1648	1724	1801	1877	7-54	
78	1954	2030	2107	2183	2260	2336	2413	2489	2566	2642	8-61	
79	2719	2795	2872	2948	3025	3101	3177	3254	3330	3407	9-69	
5680	3483	3560	3636	3713	3789	3866	3942	4018	4095	4171		
81	4248	4324	4401	4477	4554	4630	4707	4783	4859	4936	76.4	
82	5012	5089	5165	5242	5318	5394	5471	5547	5624	5700		
83	5777	5853	5929	6006	6082	6159	6235	6311	6388	6464		
84	6541	6617	6693	6770	6846	6923	6999	7075	7152	7228		
85	7305	7381	7457	7534	7610	7687	7763	7839	7916	7992		
86	8069	8145	8221	8298	8374	8450	8527	8603	8679	8756		
87	8832	8909	8985	9061	9138	9214	9290	9367	9443	9519		
88	9596	9672	9749	9825	9901	9978	0054	0130	0207	0283	76.3	
89	755.0359	0436	0512	0588	0665	0741	0817	0894	0970	1046		
5690	1123	1199	1275	1352	1428	1504	1581	1657	1733	1809	76	
91	1886	1962	2038	2115	2191	2267	2344	2420	2496	2573	1-8	
92	2649	2725	2801	2878	2954	3030	3107	3183	3259	3336	2-15	
93	3412	3488	3564	3641	3717	3793	3869	3946	4022	4098	3-23	
94	4175	4251	4327	4403	4480	4556	4632	4708	4785	4861	4-30	
95	4937	5013	5090	5166	5242	5319	5395	5471	5547	5624	5-38	
96	5700	5776	5852	5928	6005	6081	6157	6233	6310	6386	76.2	6-46
97	6462	6538	6615	6691	6767	6843	6920	6996	7072	7148	7-53	
98	7224	7301	7377	7453	7529	7605	7682	7758	7834	7910	8-61	
99	7987	8063	8139	8215	8291	8368	8444	8520	8596	8673	9-68	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 57000. L. 755.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
5700	755.8749	8825	8901	8977	9053	9129	9206	9282	9358	9434		76
01	9510	9587	9663	9739	9815	9891	9967	0044	0120	0196		1-8
02	756.0272	0348	0424	0501	0577	0653	0729	0805	0881	0958		2-15
03	1034	1110	1186	1262	1338	1414	1491	1567	1643	1719	75.1	3-23
04	1795	1871	1947	2024	2100	2176	2252	2328	2404	2480		4-30
05	2556	2633	2709	2785	2861	2937	3013	3089	3165	3242		5-38
06	3318	3394	3470	3546	3622	3698	3774	3850	3926	4003		6-46
07	4079	4155	4231	4307	4383	4459	4535	4611	4687	4764		7-53
08	4840	4916	4992	5068	5144	5220	5296	5372	5448	5524		8-61
09	5600	5676	5753	5829	5905	5981	6057	6133	6209	6285		9-68
5710	6361	6437	6513	6589	6665	6741	6817	6893	6969	7045		
11	7122	7198	7274	7350	7425	7502	7578	7654	7730	7806	76	
12	7882	7958	8034	8110	8186	8262	8338	8414	8490	8566		
13	8642	8718	8794	8870	8946	9022	9098	9174	9250	9326		
14	9402	9478	9554	9630	9706	9782	9858	9934	0010	0086		
15	757.0162	0238	0314	0390	0466	0542	0618	0694	0770	0846		
16	0922	0998	1074	1150	1226	1302	1378	1454	1530	1606		
17	1682	1758	1834	1910	1986	2062	2138	2214	2290	2366		
18	2442	2517	2593	2669	2745	2821	2897	2973	3049	3125	75.9	
19	3201	3277	3353	3429	3505	3581	3657	3732	3808	3884		
5720	3960	4036	4112	4188	4264	4340	4416	4492	4568	4644		
21	4719	4795	4871	4947	5023	5099	5175	5251	5327	5403		
22	5479	5554	5630	5706	5782	5858	5934	6010	6086	6162		
23	6237	6313	6389	6465	6541	6617	6693	6769	6844	6920		
24	6996	7072	7148	7224	7300	7376	7451	7527	7603	7679		
25	7755	7831	7907	7982	8058	8134	8210	8286	8362	8438		
26	8513	8589	8665	8741	8817	8893	8968	9044	9120	9196	75.8	
27	9272	9348	9423	9499	9575	9651	9727	9803	9878	9954		
28	758.0030	0106	0182	0257	0333	0409	0485	0561	0637	0712		
29	0788	0864	0940	1016	1091	1167	1243	1319	1395	1470		
5730	1546	1622	1698	1774	1849	1925	2001	2077	2152	2228		
31	2304	2380	2456	2531	2607	2683	2759	2834	2910	2986		
32	3062	3138	3213	3289	3365	3441	3516	3592	3668	3744		
33	3819	3895	3971	4047	4122	4198	4274	4350	4425	4501	75.7	
34	4577	4653	4728	4804	4880	4956	5031	5107	5183	5258		
35	5334	5410	5486	5561	5637	5713	5789	5864	5940	6016		
36	6091	6167	6243	6319	6394	6470	6546	6621	6697	6773		
37	6848	6924	7000	7076	7152	7227	7303	7378	7454	7530		
38	7605	7681	7757	7832	7908	7984	8059	8135	8211	8287		
39	8362	8438	8514	8589	8665	8741	8816	8892	8968	9043		
5740	9119	9195	9270	9346	9422	9497	9573	9648	9724	9800		
41	9875	9951	0027	0102	0178	0254	0329	0405	0481	0556	75.6	
42	759.0632	0707	0783	0859	0934	1010	1086	1161	1237	1312		
43	1388	1464	1539	1615	1691	1766	1842	1917	1993	2069		
44	2144	2220	2295	2371	2447	2522	2598	2673	2749	2825		
45	2900	2976	3051	3127	3203	3278	3354	3429	3505	3581		
46	3656	3732	3807	3883	3958	4034	4110	4185	4261	4336		
47	4412	4487	4563	4639	4714	4790	4865	4941	5016	5092		
48	5168	5243	5319	5394	5470	5545	5621	5696	5772	5847	75.5	
49	5923	5999	6074	6150	6225	6301	6376	6452	6527	6603		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 57500. L. 759

Num	0	1	2	3	4	5	6	7	8	9	D	P. S.
5750	759.6678	6754	6829	6905	6981	7056	7132	7207	7283	7358		75.5
51	7434	7509	7585	7660	7736	7811	7887	7962	8038	8113		1-8
52	8189	8264	8340	8415	8491	8566	8642	8717	8793	8868		2-15
53	8944	9019	9095	9170	9246	9321	9397	9472	9548	9623		3-23
54	9699	9774	9849	9925	0000	0076	0151	0227	0302	0378		4-30
55	760.0453	0529	0604	0680	0755	0831	0906	0981	1057	1132		5-38
56	1208	1283	1359	1434	1510	1585	1660	1736	1811	1887	75.46	-45
57	1962	2038	2113	2189	2264	2339	2415	2490	2566	2641		7-53
58	2717	2792	2867	2943	3018	3094	3169	3244	3320	3395		8-60
59	3471	3546	3622	3697	3772	3848	3923	3999	4074	4149		9-68
5760	4225	4300	4376	4451	4526	4602	4677	4753	4828	4903		
61	4979	5054	5129	5205	5280	5356	5431	5506	5582	5657		
62	5733	5808	5883	5959	6034	6109	6185	6260	6336	6410		
63	6486	6562	6637	6712	6788	6863	6938	7014	7089	7164		
64	7240	7315	7390	7466	7541	7616	7692	7767	7842	7918	75.3	
65	7993	8068	8144	8219	8294	8370	8445	8520	8596	8671		
66	8746	8822	8897	8972	9048	9123	9198	9274	9349	9424		
67	9500	9575	9650	9725	9801	9876	9951	0027	0102	0177		
68	761.0253	0328	0403	0478	0554	0629	0704	0779	0855	0930		
69	1005	1081	1156	1231	1306	1382	1457	1532	1608	1683		
5770	1758	1833	1909	1984	2059	2134	2210	2285	2360	2435		
71	2511	2586	2661	2736	2812	2887	2962	3037	3113	3188	75.2	
72	3263	3338	3414	3489	3564	3639	3715	3790	3865	3940		
73	4016	4091	4166	4241	4316	4392	4467	4542	4617	4693		
74	4768	4843	4918	4993	5069	5144	5219	5294	5369	5445		
75	5520	5595	5670	5745	5821	5896	5971	6046	6121	6197		
76	6272	6347	6422	6497	6573	6648	6723	6798	6873	6948		
77	7024	7099	7174	7249	7324	7399	7475	7550	7625	7700		
78	7775	7850	7926	8001	8076	8151	8226	8301	8377	8452		
79	8527	8602	8677	8752	8827	8903	8978	9053	9128	9203	75.1	
5780	9278	9353	9429	9504	9579	9654	9729	9804	9879	9955		
81	762.0230	0105	0180	0255	0330	0405	0480	0555	0631	0706		
82	0781	0856	0931	1006	1081	1156	1231	1307	1382	1457		
83	1532	1607	1682	1757	1832	1907	1982	2058	2133	2208		
84	2283	2358	2433	2508	2583	2658	2733	2808	2883	2959		
85	3034	3109	3184	3259	3334	3409	3484	3559	3634	3709		
86	3784	3859	3934	4009	4084	4160	4235	4310	4385	4460		
87	4535	4610	4685	4760	4835	4910	4985	5060	5135	5210	75	
88	5285	5360	5435	5510	5585	5660	5735	5810	5885	5960		
89	6035	6110	6185	6261	6336	6411	6486	6561	6636	6711		
5790	6786	6861	6936	7011	7086	7161	7236	7311	7386	7461		
91	7536	7611	7686	7761	7836	7911	7986	8061	8136	8210		
92	8286	8360	8435	8510	8585	8660	8735	8810	8885	8960		
93	9035	9110	9185	9260	9335	9410	9485	9560	9635	9710		
94	9785	9859	9935	0010	0085	0160	0235	0310	0384	0459	74.9	4-30
95	763.0534	0609	0684	0759	0834	0909	0984	1059	1134	1209		
96	1284	1359	1434	1509	1583	1658	1733	1808	1883	1958		
97	2033	2108	2183	2258	2333	2408	2482	2557	2632	2707		
98	2782	2857	2932	3007	3082	3157	3231	3306	3381	3456		
99	3531	3606	3681	3756	3831	3905	3980	4055	4130	4205		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 58000. L. 763

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5800	763.4280	4355	4430	4505	4579	4654	4729	4804	4879	4954		
01	5029	5103	5178	5253	5328	5403	5478	5553	5627	5702	74.8	
02	5777	5852	5927	6002	6077	6151	6226	6301	6376	6451		
03	6526	6600	6675	6750	6825	6900	6975	7050	7124	7199		
04	7274	7349	7424	7498	7573	7648	7723	7798	7873	7947		
05	8022	8097	8172	8247	8321	8396	8471	8546	8621	8695		
06	8770	8845	8920	8995	9069	9144	9219	9294	9369	9443		
07	9518	9593	9668	9743	9817	9892	9967	0042	0116	0191		
08	764.0266	0341	0416	0490	0565	0640	0715	0789	0864	0939		
09	1014	1088	1163	1238	1313	1388	1462	1537	1612	1687		
5810	1761	1836	1911	1986	2060	2135	2210	2284	2359	2434	74.7	75
11	2509	2583	2658	2733	2808	2882	2957	3032	3107	3181	1-7	
12	3256	3331	3405	3480	3555	3630	3704	3779	3854	3928	2-15	
13	4003	4078	4153	4227	4302	4377	4451	4526	4601	4676	3-22	
14	4750	4825	4900	4974	5049	5124	5198	5273	5348	5422	4-30	
15	5497	5572	5647	5721	5796	5871	5945	6020	6095	6169	5-37	
16	6244	6319	6393	6468	6543	6617	6692	6767	6841	6916	6-45	
17	6991	7065	7140	7215	7289	7364	7439	7513	7588	7662	7-52	
18	7737	7812	7886	7961	8036	8110	8185	8260	8334	8409	74.6	8-60
19	8484	8558	8633	8707	8782	8857	8931	9006	9081	9155	9-67	
5820	9230	9304	9379	9454	9528	9603	9678	9752	9827	9901		
21	9976	0051	0125	0200	0274	0349	0424	0498	0573	0647		
22	765.0722	0797	0871	0946	1020	1095	1170	1244	1319	1393		
23	1468	1542	1617	1692	1766	1841	1915	1990	2064	2139		
24	2214	2288	2363	2437	2512	2586	2661	2736	2810	2885		
25	2959	3034	3108	3183	3257	3332	3407	3481	3556	3630		
26	3705	3779	3854	3928	4003	4077	4152	4227	4301	4376	74.5	
27	4450	4525	4599	4674	4748	4823	4897	4972	5046	5121		
28	5195	5270	5344	5419	5493	5568	5642	5717	5791	5866		
29	5941	6015	6090	6164	6239	6313	6388	6462	6537	6611		
5830	6686	6760	6834	6909	6983	7058	7132	7207	7281	7356	74.5	
31	7430	7505	7579	7654	7728	7803	7877	7952	8026	8101	1-7	
32	8175	8250	8324	8399	8473	8547	8622	8696	8771	8845	2-15	
33	8920	8994	9069	9143	9218	9292	9366	9441	9515	9590	74.4	3-22
34	9664	9739	9813	9888	9962	0036	0111	0185	0260	0334	4-30	
35	766.0409	0483	0557	0632	0706	0781	0855	0930	1004	1078	5-37	
36	1153	1227	1302	1376	1450	1525	1599	1674	1748	1822	6-45	
37	1897	1971	2045	2120	2194	2269	2343	2418	2492	2566	7-52	
38	2641	2715	2790	2864	2938	3013	3087	3162	3236	3311	8-60	
39	3385	3459	3533	3608	3682	3757	3831	3905	3980	4054	9-67	
5840	4128	4203	4277	4352	4426	4500	4575	4649	4723	4798		
41	4872	4946	5021	5095	5169	5244	5318	5392	5467	5541	74.3	
42	5616	5690	5764	5838	5913	5987	6061	6136	6210	6284		
43	6359	6433	6507	6582	6656	6730	6805	6879	6953	7028		
44	7102	7176	7251	7325	7399	7474	7548	7622	7696	7771		
45	7845	7919	7994	8068	8142	8217	8291	8365	8439	8514		
46	8588	8662	8737	8811	8885	8959	9034	9108	9182	9257		
47	9331	9405	9479	9554	9628	9702	9777	9851	9925	9999		
48	767.0074	0148	0222	0296	0371	0445	0519	0593	0668	0742		
49	0816	0890	0965	1039	1113	1187	1262	1336	1410	1484	74.2	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 58500. L. 767

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5850	767.1559	1633	1707	1781	1856	1930	2004	2078	2152	2227		
51	2301	2375	2449	2524	2598	2672	2746	2820	2895	2969		
52	3043	3117	3192	3266	3340	3414	3488	3563	3637	3711		
53	3785	3859	3934	4008	4082	4156	4230	4305	4379	4453		
54	4527	4601	4676	4750	4824	4898	4972	5046	5121	5195		
55	5269	5343	5417	5491	5566	5640	5714	5788	5862	5936		
56	6011	6085	6159	6233	6307	6381	6456	6530	6604	6678		
57	6752	6826	6900	6975	7049	7123	7197	7271	7345	7419	74.1	
58	7494	7568	7642	7716	7790	7864	7938	8013	8087	8161		
59	8235	8309	8383	8457	8531	8606	8680	8754	8828	8902		
5860	8976	9050	9124	9198	9273	9347	9421	9495	9569	9643		
61	9717	9791	9865	9939	0014	0088	0162	0236	0310	0384		
62	768.0458	0532	0606	0680	0754	0829	0903	0977	1051	1125		
63	1199	1273	1347	1421	1495	1569	1643	1717	1791	1866		
64	1940	2014	2088	2162	2236	2310	2384	2458	2532	2606		
65	2680	2754	2828	2902	2976	3050	3124	3198	3272	3347	74	
66	3421	3495	3569	3643	3717	3791	3865	3939	4013	4087		
67	4161	4235	4309	4383	4457	4531	4605	4679	4753	4827		
68	4901	4975	5049	5123	5197	5271	5345	5419	5493	5567		
69	5641	5715	5789	5863	5937	6011	6085	6159	6233	6307		
5870	6381	6455	6529	6603	6677	6751	6825	6899	6973	7047		
71	7121	7195	7269	7343	7417	7491	7565	7639	7712	7786		
72	7860	7934	8008	8082	8156	8230	8304	8378	8452	8526		
73	8600	8674	8748	8822	8896	8970	9044	9118	9191	9265	73.9	
74	9339	9413	9487	9561	9635	9709	9783	9857	9931	0005		
75	769.0079	0153	0227	0300	0374	0448	0522	0596	0670	0744		
76	0818	0892	0966	1040	1113	1187	1261	1335	1409	1483		
77	1557	1631	1705	1779	1852	1926	2000	2074	2148	2222		
78	2296	2370	2444	2517	2591	2665	2739	2813	2887	2961		
79	3035	3108	3182	3256	3330	3404	3478	3552	3625	3699		
5880	3773	3847	3921	3995	4069	4142	4216	4290	4364	4438		
81	4512	4586	4659	4733	4807	4881	4955	5029	5102	5176	73.8	
82	5250	5324	5398	5472	5545	5619	5693	5767	5841	5915		
83	5988	6062	6136	6210	6284	6358	6431	6505	6579	6653		
84	6727	6800	6874	6948	7022	7096	7169	7243	7317	7391		
85	7465	7538	7612	7686	7760	7834	7907	7981	8055	8129		
86	8203	8276	8350	8424	8498	8571	8645	8719	8793	8867		
87	8940	9014	9088	9162	9235	9309	9383	9457	9530	9604		
88	9678	9752	9825	9899	9973	0047	0120	0194	0268	0342		
89	770.0415	0489	0563	0637	0710	0784	0858	0932	1005	1079	73.7	
5890	1153	1227	1300	1374	1448	1522	1595	1669	1743	1816		
91	1890	1964	2038	2111	2185	2259	2332	2406	2480	2554		
92	2627	2701	2775	2848	2922	2996	3070	3143	3217	3291		
93	3364	3438	3512	3585	3659	3733	3807	3880	3954	4028		
94	4101	4175	4249	4322	4396	4470	4543	4617	4691	4764		
95	4838	4912	4985	5059	5133	5206	5280	5354	5427	5501		
96	5575	5648	5722	5796	5869	5943	6017	6090	6164	6238		
97	6311	6385	6459	6532	6605	6679	6753	6827	6900	6974	73.6	
98	7048	7121	7195	7269	7342	7416	7489	7563	7637	7710		
99	7784	7858	7931	8005	8078	8152	8226	8299	8373	8446		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 59000. L. 770.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5900	770.8520	8594	8667	8741	8814	8888	8962	9035	9109	9182		73-5
01	9256	9330	9403	9477	9550	9624	9698	9771	9845	9918		1-7
02	9992	0066	0139	0213	0286	0360	0433	0507	0581	0654		2-15
03	771.0728	0801	0875	0948	1022	1096	1169	1243	1316	1390		3-22
04	1463	1537	1611	1684	1758	1831	1905	1978	2052	2125		4-29
05	2199	2273	2346	2420	2493	2567	2640	2714	2787	2861	73-5	5-37
06	2934	3008	3081	3155	3229	3302	3376	3449	3523	3596		6-44
07	3670	3743	3817	3890	3964	4037	4111	4184	4258	4331		7-51
08	4405	4478	4552	4625	4699	4772	4846	4919	4993	5066		8-59
09	5140	5213	5287	5360	5434	5507	5581	5654	5728	5801		9-66
5910	5875	5948	6022	6095	6169	6242	6316	6389	6463	6536		
11	6610	6683	6756	6830	6903	6977	7050	7124	7197	7271		
12	7344	7418	7491	7565	7638	7711	7785	7858	7932	8005		
13	8079	8152	8226	8299	8373	8446	8519	8593	8666	8740	73-4	
14	8813	8887	8960	9033	9107	9180	9254	9327	9401	9474		
15	9547	9621	9694	9768	9841	9915	9988	0061	0135	0208		
16	772.0282	0355	0428	0502	0575	0649	0722	0795	0869	0942		
17	1016	1089	1162	1236	1309	1383	1456	1529	1603	1676		
18	1750	1823	1896	1970	2043	2116	2190	2263	2337	2410		
19	2483	2557	2630	2703	2777	2850	2924	2997	3070	3144		
5920	3217	3290	3364	3437	3510	3584	3657	3731	3804	3877		
21	3951	4024	4097	4171	4244	4317	4391	4464	4537	4611	73-3	
22	4684	4757	4831	4904	4977	5051	5124	5197	5271	5344		
23	5417	5491	5564	5637	5711	5784	5857	5931	6004	6077		
24	6150	6224	6297	6370	6444	6517	6590	6664	6737	6810		
25	6883	6957	7030	7103	7177	7250	7323	7397	7470	7543		
26	7616	7690	7763	7836	7910	7983	8056	8129	8203	8276		
27	8349	8422	8495	8569	8642	8716	8789	8862	8935	9009		
28	9082	9155	9228	9302	9375	9448	9521	9595	9668	9741		
29	9814	9888	9961	0034	0107	0181	0254	0327	0400	0474	73-2	
5930	773.0547	0620	0693	0767	0840	0913	0986	1060	1133	1206		
31	1279	1352	1426	1499	1572	1645	1719	1792	1865	1938		
32	2011	2085	2158	2231	2304	2377	2451	2524	2597	2670		
33	2743	2817	2890	2963	3036	3109	3183	3256	3329	3402		
34	3475	3549	3622	3695	3768	3841	3914	3988	4061	4134		
35	4207	4280	4354	4427	4500	4573	4646	4719	4793	4866		
36	4939	5012	5085	5158	5232	5305	5378	5451	5524	5597		
37	5670	5744	5817	5890	5963	6036	6109	6182	6256	6329	73-1	
38	6402	6475	6548	6621	6694	6768	6841	6914	6987	7060		
39	7133	7206	7279	7353	7426	7499	7572	7645	7718	7791		
5940	7864	7938	8011	8084	8157	8230	8303	8376	8449	8522		
41	8595	8669	8742	8815	8888	8961	9034	9107	9180	9253		
42	9326	9400	9473	9546	9619	9692	9765	9838	9911	9984		
43	774.0057	0130	0203	0276	0350	0423	0495	0569	0642	0715		
44	0788	0861	0934	1007	1080	1153	1226	1299	1372	1445		
45	1519	1592	1665	1738	1811	1884	1957	2030	2103	2176	73	
46	2249	2322	2395	2468	2541	2614	2687	2760	2833	2906		
47	2979	3052	3125	3198	3271	3344	3417	3490	3564	3637		
48	3710	3783	3856	3929	4002	4075	4148	4221	4294	4367		
49	4440	4513	4586	4659	4732	4805	4878	4951	5024	5097		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 59500. L. 774

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
5950	774	5170	5243	5314	5389	5462	5535	5608	5681	5753	5826	73
51		5899	5972	6045	6118	6191	6264	6337	6410	6483	6556	1-7
52		6629	6702	6775	6848	6921	6994	7067	7140	7213	7286	2-15
53		7359	7432	7505	7578	7651	7724	7797	7869	7942	8015	3-22
54		8088	8161	8234	8307	8380	8453	8526	8599	8672	8745	4-29
55		8818	8891	8963	9036	9109	9182	9255	9328	9401	9474	5-36
56		9547	9620	9693	9766	9839	9911	9984	0057	0130	0203	6-44
57	775	0276	0349	0422	0495	0568	0640	0713	0786	0859	0932	7-51
58		1005	1078	1151	1224	1297	1369	1442	1515	1588	1661	8-58
59		1734	1807	1880	1952	2025	2098	2171	2244	2317	2390	9-66
5960		2463	2535	2608	2681	2754	2827	2900	2973	3045	3118	
61		3191	3264	3337	3410	3483	3555	3628	3701	3774	3847	72.8
62		3920	3993	4065	4138	4211	4284	4357	4430	4502	4575	
63		4648	4721	4794	4867	4939	5012	5085	5158	5231	5303	
64		5376	5449	5522	5595	5668	5740	5813	5886	5959	6032	
65		6104	6177	6250	6323	6396	6468	6541	6614	6687	6760	
66		6832	6905	6978	7051	7124	7196	7269	7342	7415	7488	
67		7560	7633	7706	7779	7851	7924	7997	8070	8143	8215	
68		8288	8361	8434	8506	8579	8652	8725	8797	8870	8943	
69		9016	9088	9161	9234	9307	9380	9452	9525	9598	9671	
5970		9743	9816	9889	9961	0034	0107	0180	0252	0325	0398	72.7
71	776	0471	0543	0616	0689	0762	0834	0907	0980	1052	1125	
72		1198	1271	1343	1416	1489	1562	1634	1707	1780	1852	
73		1925	1998	2071	2143	2216	2289	2361	2434	2507	2579	
74		2652	2725	2798	2870	2943	3016	3088	3161	3234	3306	
75		3379	3452	3524	3597	3670	3742	3815	3888	3960	4033	
76		4106	4179	4251	4324	4397	4469	4542	4615	4687	4760	
77		4833	4905	4978	5050	5123	5196	5268	5341	5414	5486	
78		5559	5632	5704	5777	5850	5922	5995	6068	6140	6213	72.6
79		6285	6358	6431	6503	6576	6649	6721	6794	6867	6939	
5980		7012	7085	7157	7230	7302	7375	7448	7520	7593	7665	
81		7738	7811	7883	7956	8028	8101	8174	8246	8319	8391	
82		8464	8537	8609	8682	8754	8827	8900	8972	9045	9117	
83		9190	9263	9335	9408	9480	9553	9625	9698	9771	9843	
84		9916	9988	0061	0134	0206	0279	0351	0424	0496	0569	
85	777	0641	0714	0787	0859	0932	1004	1077	1149	1222	1295	
86		1367	1440	1512	1585	1657	1730	1802	1875	1948	2020	72.5
87		2093	2165	2238	2310	2383	2455	2528	2600	2673	2745	
88		2818	2890	2963	3035	3108	3180	3253	3326	3398	3471	
89		3543	3616	3688	3761	3833	3906	3978	4051	4123	4196	
5990		4268	4341	4413	4486	4558	4631	4703	4776	4848	4921	72.5
91		4993	5065	5138	5211	5283	5356	5428	5501	5573	5646	1-7
92		5718	5790	5863	5935	6008	6080	6153	6225	6298	6370	2-14
93		6443	6515	6588	6660	6733	6805	6878	6950	7022	7095	3-22
94		7167	7240	7312	7385	7457	7530	7602	7674	7747	7819	72.4
95		7892	7964	8037	8109	8182	8254	8326	8399	8471	8544	5-36
96		8616	8689	8761	8833	8906	8978	9051	9123	9196	9268	6-43
97		9340	9413	9485	9558	9630	9703	9775	9847	9920	9992	7-51
98	778	0065	0137	0209	0282	0354	0427	0499	0571	0644	0716	8-58
99		0789	0861	0933	1006	1078	1151	1223	1295	1368	1440	9-65
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 60000. L. 778.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6000	778.1512	1585	1657	1730	1802	1874	1947	2019	2091	2164		72-5
01	2236	2309	2381	2453	2526	2598	2670	2743	2815	2888		1-7
02	2960	3032	3105	3177	3249	3322	3394	3466	3539	3611		2-14
03	3683	3756	3828	3900	3973	4045	4117	4190	4262	4334	72-3	3-22
04	4407	4479	4551	4624	4696	4768	4841	4913	4985	5058		4-29
05	5130	5202	5275	5347	5419	5492	5564	5636	5709	5781		5-36
06	5853	5926	5998	6070	6142	6215	6287	6359	6432	6504		6-43
07	6576	6649	6721	6793	6865	6938	7010	7082	7155	7227		7-51
08	7299	7371	7444	7516	7588	7661	7733	7805	7877	7950		8-58
09	8022	8094	8167	8239	8311	8383	8456	8528	8600	8672		9-65
6010	8745	8817	8889	8961	9034	9106	9178	9250	9323	9395		
11	9467	9539	9612	9684	9756	9828	9901	9973	0045	0117	72-2	
12	779.0190	0262	0334	0406	0479	0551	0623	0695	0768	0840		
13	0912	0984	1056	1129	1201	1273	1345	1418	1490	1562		
14	1634	1706	1779	1851	1923	1995	2067	2140	2212	2284		
15	2356	2428	2501	2573	2645	2717	2789	2862	2934	3006		
16	3078	3150	3223	3295	3367	3439	3511	3584	3656	3728		
17	3800	3872	3944	4017	4089	4161	4233	4305	4377	4450		
18	4522	4594	4666	4738	4810	4883	4955	5027	5099	5171		
19	5243	5316	5388	5460	5532	5604	5676	5748	5821	5893	72-1	
6020	5965	6037	6109	6181	6253	6326	6398	6470	6542	6614		
21	6686	6758	6830	6903	6975	7047	7119	7191	7263	7335		
22	7407	7480	7552	7624	7696	7768	7840	7912	7984	8056		
23	8129	8201	8273	8345	8417	8489	8561	8633	8705	8777		
24	8850	8922	8994	9066	9138	9210	9282	9354	9426	9498		
25	9570	9643	9715	9787	9859	9931	0003	0075	0147	0219		
26	780.0291	0363	0435	0507	0579	0652	0724	0796	0868	0940		
27	1012	1084	1156	1228	1300	1372	1444	1516	1588	1660		
28	1732	1804	1876	1949	2021	2093	2165	2237	2309	2381	72	
29	2453	2525	2597	2669	2741	2813	2885	2957	3029	3101		
6030	3173	3245	3317	3389	3461	3533	3605	3677	3749	3821		72
31	3893	3965	4037	4109	4181	4253	4325	4397	4469	4541		1-7
32	4613	4685	4757	4829	4901	4973	5045	5117	5189	5261		2-14
33	5333	5405	5477	5549	5621	5693	5765	5837	5909	5981		3-22
34	6053	6125	6197	6269	6341	6413	6485	6557	6629	6701		4-29
35	6773	6845	6917	6989	7061	7132	7204	7276	7348	7420		5-36
36	7492	7564	7636	7708	7780	7852	7924	7996	8068	8140	71-9	6-43
37	8212	8284	8356	8428	8499	8571	8643	8715	8787	8859		7-50
38	8931	9003	9075	9147	9219	9291	9363	9434	9506	9578		8-58
39	9650	9722	9794	9866	9938	0010	0082	0154	0226	0297		9-65
6040	781.0369	0441	0513	0585	0657	0729	0801	0873	0945	1016		
41	1088	1160	1232	1304	1376	1448	1520	1592	1663	1735		
42	1807	1879	1950	2023	2095	2167	2238	2310	2382	2454		
43	2526	2598	2670	2741	2813	2885	2957	3029	3101	3173		
44	3245	3316	3388	3460	3532	3604	3676	3747	3819	3891	71-8	
45	3963	4035	4107	4179	4250	4322	4394	4466	4538	4610		
46	4681	4753	4825	4897	4969	5041	5112	5184	5256	5328		
47	5400	5471	5543	5615	5687	5759	5831	5902	5974	6046		
48	6118	6190	6261	6333	6405	6477	6549	6620	6692	6764		
49	6836	6908	6979	7051	7123	7195	7267	7338	7410	7482		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 60500. L. 781

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6050	781.7554	7625	7697	7769	7841	7913	7984	8056	8128	8200		
51	8271	8343	8415	8487	8559	8630	8702	8774	8846	8917		
52	8989	9061	9133	9204	9276	9348	9420	9491	9563	9635		
53	9707	9778	9850	9922	9994	0065	0137	0209	0281	0352	71.7	
54	782.0424	0496	0568	0639	0711	0783	0855	0926	0998	1070		
55	1141	1213	1285	1357	1428	1500	1572	1643	1715	1787		
56	1859	1930	2002	2074	2145	2217	2289	2361	2432	2504		
57	2576	2647	2719	2791	2862	2934	3006	3078	3149	3221		
58	3293	3364	3435	3508	3579	3651	3723	3794	3866	3938		
59	4009	4081	4153	4225	4296	4368	4440	4511	4583	4655		
6060	4726	4798	4870	4941	5013	5085	5156	5228	5299	5371		
61	5443	5514	5586	5658	5729	5801	5873	5944	6016	6088	71.6	
62	6159	6231	6303	6374	6446	6517	6589	6661	6732	6804		
63	6876	6947	7019	7091	7162	7234	7305	7377	7449	7520		
64	7592	7663	7735	7807	7878	7950	8022	8093	8165	8236		
65	8308	8380	8451	8523	8594	8666	8738	8809	8881	8952		
66	9024	9095	9167	9239	9310	9382	9454	9525	9597	9668		
67	9740	9811	9883	9955	0026	0098	0169	0241	0313	0384		
68	783.0456	0527	0599	0670	0742	0814	0885	0957	1028	1100		
69	1171	1243	1314	1386	1458	1529	1601	1672	1744	1815		
6070	1887	1958	2030	2101	2173	2245	2316	2388	2459	2531	71.5	71.5
71	2602	2674	2745	2817	2888	2960	3031	3103	3175	3246	1-7	
72	3318	3389	3461	3532	3604	3675	3747	3818	3890	3961	2-14	
73	4033	4104	4176	4247	4319	4390	4462	4533	4605	4676	3-21	
74	4748	4819	4891	4962	5034	5105	5177	5248	5320	5391	4-29	
75	5463	5534	5606	5677	5749	5820	5892	5963	6035	6106	5-36	
76	6178	6249	6321	6392	6464	6535	6606	6678	6749	6821	6-43	
77	6892	6964	7035	7107	7178	7250	7321	7393	7464	7535	7-51	
78	7607	7678	7750	7821	7893	7964	8036	8107	8178	8250	71.4	8-57
79	8321	8393	8464	8536	8607	8679	8750	8821	8893	8964	9-64	
6080	9036	9107	9179	9250	9321	9393	9464	9536	9607	9679		
81	9750	9821	9893	9964	0036	0107	0178	0250	0321	0393		
82	784.0464	0536	0607	0678	0750	0821	0893	0964	1035	1107		
83	1178	1250	1321	1392	1464	1535	1606	1678	1749	1821		
84	1892	1963	2035	2106	2177	2249	2320	2392	2463	2534		
85	2606	2677	2749	2820	2891	2963	3034	3105	3177	3248		
86	3319	3391	3462	3534	3605	3676	3748	3819	3890	3962		
87	4033	4104	4176	4247	4318	4390	4461	4532	4604	4675	71.3	
88	4748	4819	4891	4962	5034	5105	5177	5248	5319	5388		
89	5460	5531	5602	5674	5745	5816	5888	5959	6030	6102		
6090	6173	6244	6315	6387	6458	6529	6601	6672	6743	6815		71
91	6886	6957	7029	7100	7171	7242	7314	7385	7456	7528	1-7	
92	7599	7670	7741	7813	7884	7955	8027	8098	8169	8240	2-14	
93	8312	8383	8454	8526	8597	8668	8739	8811	8882	8953	3-21	
94	9024	9096	9167	9238	9310	9381	9452	9523	9595	9666	4-28	
95	9737	9808	9880	9951	0022	0093	0165	0236	0307	0378	71.2	5-35
96	785.0450	0521	0592	0663	0734	0806	0877	0948	1019	1091	6-43	
97	1162	1233	1304	1376	1447	1518	1589	1660	1732	1803	7-50	
98	1874	1945	2017	2088	2159	2230	2301	2373	2444	2515	8-57	
99	2586	2657	2729	2800	2871	2942	3014	3085	3156	3227	9-64	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 61000. L. 785.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6100	785.3298	3369	3441	3512	3583	3654	3725	3797	3858	3939		71
01	4010	4081	4153	4224	4295	4366	4437	4508	4580	4651		1-7
02	4722	4793	4864	4935	5007	5078	5149	5220	5291	5362		2-14
03	5434	5505	5576	5647	5718	5789	5861	5932	6003	6074		3-21
04	6145	6216	6287	6359	6430	6501	6572	6643	6714	6785	71.1	4-28
05	6857	6928	6999	7070	7141	7212	7283	7355	7426	7497		5-35
06	7568	7639	7710	7781	7852	7924	7995	8066	8137	8208		6-43
07	8279	8350	8421	8492	8564	8635	8706	8777	8848	8919		7-50
08	8990	9061	9132	9204	9275	9346	9417	9488	9559	9630		8-57
09	9701	9772	9843	9914	9985	0057	0128	0199	0270	0341		9-64
6110	786.0412	0483	0554	0625	0696	0767	0839	0910	0981	1052		
11	1123	1194	1265	1336	1407	1478	1549	1620	1691	1762		
12	1833	1904	1976	2047	2118	2189	2260	2331	2402	2473		
13	2544	2615	2686	2757	2828	2899	2970	3041	3112	3183	71	
14	3254	3325	3396	3467	3538	3609	3680	3751	3823	3894		
15	3965	4036	4107	4178	4249	4320	4391	4462	4533	4604		
16	4675	4746	4817	4888	4959	5030	5101	5172	5243	5314		
17	5385	5456	5527	5598	5669	5740	5811	5882	5953	6024		
18	6095	6166	6237	6308	6379	6450	6521	6592	6663	6734		
19	6804	6875	6946	7017	7088	7159	7230	7301	7372	7443		
6120	7514	7585	7656	7727	7798	7869	7940	8011	8082	8153		
21	8224	8295	8366	8437	8508	8578	8649	8720	8791	8862	70.9	
22	8933	9004	9075	9146	9217	9288	9359	9430	9501	9572		
23	9643	9713	9784	9855	9926	9997	0068	0139	0210	0281		
24	787.0352	0423	0494	0565	0635	0706	0777	0848	0919	0990		
25	1061	1132	1203	1274	1344	1415	1486	1557	1628	1699		
26	1770	1841	1912	1983	2053	2124	2195	2266	2337	2408		
27	2479	2550	2621	2691	2762	2833	2904	2975	3046	3117		
28	3188	3258	3329	3400	3471	3542	3613	3684	3754	3825		
29	3896	3967	4038	4109	4180	4250	4321	4392	4463	4534		
6130	4605	4676	4746	4817	4888	4959	5030	5101	5171	5242	70.8	
31	5313	5384	5455	5526	5596	5667	5738	5809	5880	5951		
32	6021	6092	6163	6234	6305	6376	6446	6517	6588	6659		
33	6730	6800	6871	6942	7013	7084	7154	7225	7296	7367		
34	7438	7508	7579	7650	7721	7792	7862	7933	8004	8075		
35	8146	8216	8287	8358	8429	8500	8570	8641	8712	8783		
36	8853	8924	8995	9066	9137	9207	9278	9349	9420	9490		
37	9561	9632	9703	9773	9844	9915	9986	0057	0127	0198		
38	788.0269	0340	0410	0481	0552	0623	0693	0764	0835	0906	70.7	
39	0976	1047	1118	1189	1259	1330	1401	1471	1542	1613		
6140	1684	1754	1825	1896	1967	2037	2108	2179	2249	2320		
41	2391	2462	2532	2603	2674	2745	2815	2886	2957	3027		
42	3098	3169	3239	3310	3381	3452	3522	3593	3664	3734		
43	3805	3876	3946	4017	4088	4159	4229	4300	4371	4441		
44	4512	4583	4653	4724	4795	4865	4936	5007	5077	5148		
45	5219	5289	5360	5431	5502	5572	5643	5714	5784	5855		
46	5926	5996	6067	6137	6208	6279	6349	6420	6491	6561		
47	6632	6703	6773	6844	6915	6985	7056	7127	7197	7268	70.6	
48	7339	7409	7480	7550	7621	7692	7762	7833	7904	7974		
49	8045	8116	8186	8257	8327	8398	8469	8539	8610	8680		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 61500. L. 788

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6150	788.8751	8822	8892	8963	9034	9104	9175	9245	9316	9387		
51	9457	9528	9598	9669	9740	9810	9881	9951	0022	0093		
52	789.0163	0234	0304	0375	0446	0516	0587	0657	0728	0799		
53	0869	0940	1010	1081	1151	1222	1293	1363	1434	1504		
54	1575	1645	1716	1787	1857	1928	1998	2069	2139	2210		
55	2281	2351	2422	2492	2563	2633	2704	2774	2845	2916		
56	2986	3057	3127	3198	3268	3339	3409	3480	3550	3621	70.5	
57	3691	3762	3833	3903	3974	4044	4115	4185	4256	4326		
58	4397	4467	4538	4608	4679	4749	4820	4890	4961	5031		
59	5102	5173	5243	5314	5384	5455	5525	5596	5666	5737		
6160	5807	5878	5948	6019	6089	6160	6230	6301	6371	6442	70.5	
61	6512	6583	6653	6724	6794	6864	6935	7005	7076	7146	1--7	
62	7217	7287	7358	7428	7499	7569	7640	7710	7781	7851	2--14	
63	7922	7992	8063	8133	8203	8274	8344	8415	8485	8556	3--21	
64	8626	8697	8767	8838	8908	8979	9049	9119	9190	9260	4--28	
65	9331	9401	9472	9542	9613	9683	9753	9824	9894	9965	70.4	5--35
66	790.0035	0106	0176	0246	0317	0387	0458	0528	0599	0669	6--42	
67	0739	0810	0880	0951	1021	1092	1162	1232	1303	1373	7--49	
68	1444	1514	1584	1655	1725	1796	1866	1936	2007	2077	8--56	
69	2148	2218	2288	2359	2429	2500	2570	2640	2711	2781	9--63	
6170	2852	2922	2992	3063	3133	3204	3274	3344	3415	3485		
71	3555	3626	3696	3767	3837	3907	3978	4048	4118	4189		
72	4259	4329	4400	4470	4541	4611	4681	4752	4822	4892		
73	4963	5033	5103	5174	5244	5314	5385	5455	5526	5596	70.3	
74	5666	5737	5807	5877	5948	6018	6088	6159	6229	6299		
75	6370	6440	6510	6581	6651	6721	6792	6862	6932	7003		
76	7073	7143	7213	7284	7354	7424	7495	7565	7635	7706		
77	7776	7846	7917	7987	8057	8127	8198	8268	8338	8409		
78	8479	8549	8620	8690	8760	8830	8901	8971	9041	9112		
79	9182	9252	9322	9393	9463	9533	9604	9674	9744	9814		
6180	9885	9955	0025	0096	0166	0236	0306	0377	0447	0517		
81	791.0587	0658	0728	0798	0868	0939	1009	1079	1149	1220		
82	1290	1360	1430	1501	1571	1641	1711	1782	1852	1922	70.2	
83	1992	2063	2133	2203	2273	2344	2414	2484	2554	2625		
84	2695	2765	2835	2905	2976	3046	3116	3186	3257	3327		
85	3397	3467	3537	3608	3678	3748	3818	3888	3959	4029		
86	4099	4169	4240	4310	4380	4450	4520	4591	4661	4731		
87	4801	4871	4941	5012	5082	5152	5222	5292	5363	5433		
88	5503	5573	5643	5714	5784	5854	5924	5994	6064	6135		
89	6205	6275	6345	6415	6485	6556	6626	6696	6766	6836		
6190	6906	6977	7047	7117	7187	7257	7327	7398	7468	7538	70	
91	7608	7678	7748	7818	7889	7959	8029	8099	8169	8239	70.1	1--7
92	8309	8380	8450	8520	8590	8660	8730	8800	8870	8941	2--14	
93	9011	9081	9151	9221	9291	9361	9431	9502	9572	9642	3--21	
94	9712	9782	9852	9922	9992	0063	0133	0203	0273	0343	4--28	
95	792.0413	0483	0553	0623	0693	0764	0834	0904	0974	1044	5--35	
96	1114	1184	1254	1324	1394	1464	1535	1605	1675	1745	6--42	
97	1815	1885	1955	2025	2095	2165	2235	2305	2376	2446	7--49	
98	2516	2586	2656	2726	2786	2866	2936	3006	3076	3146	8--56	
99	3216	3286	3356	3426	3497	3567	3637	3707	3777	3847	9--63	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.62000, L. 792.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6200	792.3917	3987	4057	4127	4197	4267	4337	4407	4477	4547	70	70
01	4617	4687	4757	4827	4897	4967	5037	5107	5178	5248	1—7	
02	5318	5388	5458	5528	5598	5668	5738	5808	5878	5948	2—14	
03	6018	6088	6158	6228	6298	6368	6438	6508	6578	6648	3—21	
04	6718	6788	6858	6928	6998	7068	7138	7208	7278	7348	4—28	
05	7418	7488	7558	7628	7698	7768	7838	7908	7978	8048	1—35	
06	8118	8188	8258	8328	8398	8468	8538	8608	8677	8747	6—42	
07	8817	8887	8957	9027	9097	9167	9237	9307	9377	9447	7—49	
08	9517	9587	9657	9727	9797	9867	9937	0007	0077	0147	8—56	
09	793.0217	0286	0356	0426	0496	0566	0636	0706	0776	0846	69.9	63
6210	0916	0986	1056	1126	1196	1266	1336	1405	1475	1545		
11	1615	1685	1755	1825	1895	1965	2035	2105	2175	2245		
12	2314	2384	2454	2524	2594	2664	2734	2804	2874	2944		
13	3013	3083	3153	3223	3293	3363	3433	3503	3573	3643		
14	3712	3782	3852	3922	3992	4062	4132	4202	4272	4341		
15	4411	4481	4551	4621	4691	4761	4831	4900	4970	5040		
16	5110	5180	5250	5320	5389	5459	5529	5599	5669	5739		
17	5809	5878	5948	6018	6088	6158	6228	6298	6367	6437		
18	6507	6577	6647	6717	6786	6856	6926	6996	7066	7136	69.8	
19	7206	7275	7345	7415	7485	7555	7624	7694	7764	7834		
6220	7904	7974	8043	8113	8183	8253	8323	8393	8462	8532		
21	8602	8672	8742	8811	8881	8951	9021	9091	9160	9230		
22	9300	9370	9440	9509	9579	9649	9719	9789	9858	9928		
23	9998	0068	0138	0207	0277	0347	0417	0486	0556	0626		
24	794.0696	0766	0835	0905	0975	1045	1114	1184	1254	1324		
25	1394	1463	1533	1603	1673	1742	1812	1882	1952	2021		
26	2091	2161	2231	2300	2370	2440	2510	2579	2649	2719	69.7	
27	2789	2858	2928	2998	3068	3137	3207	3277	3347	3416		
28	3486	3556	3625	3695	3765	3835	3904	3974	4044	4114		
29	4183	4253	4323	4392	4462	4532	4602	4671	4741	4811		
6230	4880	4950	5020	5090	5159	5229	5299	5368	5438	5508		
31	5577	5647	5717	5787	5856	5926	5996	6065	6135	6205		
32	6274	6344	6414	6483	6553	6623	6693	6762	6832	6902		
33	6971	7041	7111	7180	7250	7320	7389	7459	7529	7598		
34	7668	7738	7807	7877	7947	8016	8086	8156	8225	8295		
35	8365	8434	8504	8573	8643	8713	8782	8852	8922	8991	69.6	
36	9061	9131	9200	9270	9340	9409	9479	9548	9618	9688		
37	9757	9827	9897	9966	0036	0106	0175	0245	0314	0384		
38	795.0454	0523	0593	0663	0732	0802	0871	0941	1011	1080		
39	1150	1219	1289	1359	1428	1498	1567	1637	1707	1776		
6240	1846	1915	1985	2055	2124	2194	2263	2333	2403	2472		
41	2542	2611	2681	2751	2820	2890	2959	3029	3098	3168		
42	3238	3307	3377	3446	3516	3585	3655	3725	3794	3864		
43	3933	4003	4072	4142	4212	4281	4351	4420	4490	4559		
44	4629	4698	4768	4838	4907	4977	5046	5116	5185	5255	69.5	
45	5324	5394	5463	5533	5603	5672	5742	5811	5881	5950		
46	6020	6089	6159	6228	6298	6367	6437	6506	6576	6645		
47	6715	6785	6854	6924	6993	7063	7132	7202	7271	7341		
48	7410	7480	7549	7619	7688	7758	7827	7897	7966	8036		
49	8105	8175	8244	8314	8383	8453	8522	8592	8661	8731		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N.62500. L.795

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6250	795	8800	8870	8939	9009	9078	9148	9217	9287	9356	9425	69.5
51	9495	9564	9634	9703	9773	9842	9912	9981	0051	0120		1-7
52	796	0190	0259	0329	0398	0467	0537	0606	0676	0745	0815	2-14
53	0884	0954	1023	1093	1162	1231	1301	1370	1440	1509		3-21
54	1579	1648	1718	1787	1856	1926	1995	2065	2134	2204	69.4	4-28
55	2273	2343	2412	2481	2551	2620	2690	2759	2829	2898		5-35
56	2967	3037	3106	3176	3245	3314	3384	3453	3523	3592		6-42
57	3662	3731	3800	3870	3939	4009	4078	4147	4217	4286		7-49
58	4356	4425	4494	4564	4633	4703	4772	4841	4911	4980		8-56
59	5049	5119	5188	5258	5327	5396	5466	5535	5605	5674		9-63
6260	5743	5813	5882	5951	6021	6090	6160	6229	6298	6368		
61	6437	6506	6576	6645	6714	6784	6853	6923	6992	7061		
62	7131	7200	7269	7339	7408	7477	7547	7616	7685	7755	69.3	
63	7824	7893	7963	8032	8101	8171	8240	8309	8379	8448		
64	8517	8587	8656	8725	8795	8864	8933	9003	9072	9141		
65	9211	9280	9349	9419	9488	9557	9627	9696	9765	9835		
66	9904	9973	0042	0112	0181	0250	0320	0389	0458	0528		
67	797	0527	0666	0735	0805	0874	0943	1013	1082	1151	1221	
68	1290	1358	1428	1498	1567	1635	1706	1775	1844	1913		
69	1983	2052	2121	2190	2260	2329	2398	2468	2537	2606		
6270	2675	2745	2814	2883	2952	3022	3091	3160	3229	3299		
71	3368	3437	3506	3576	3645	3714	3783	3853	3922	3991	69.2	
72	4060	4130	4199	4268	4337	4407	4476	4545	4614	4684		
73	4753	4822	4891	4961	5030	5099	5168	5237	5307	5376		
74	5445	5514	5584	5653	5722	5791	5860	5930	5999	6068		
75	6137	6206	6276	6345	6414	6483	6552	6622	6691	6760		
76	6829	6898	6968	7037	7106	7175	7244	7314	7383	7452		
77	7521	7590	7660	7729	7798	7867	7936	8006	8075	8144		
78	8213	8282	8351	8421	8490	8559	8628	8697	8766	8836		
79	8905	8974	9043	9112	9181	9251	9320	9389	9458	9527		
6280	9596	9666	9735	9804	9873	9942	0011	0080	0150	0219	69.1	
81	798	0288	0357	0426	0495	0564	0634	0703	0772	0841	0910	
82	0979	1048	1118	1187	1256	1325	1394	1463	1532	1601		
83	1671	1740	1809	1878	1947	2016	2085	2154	2223	2293		
84	2362	2431	2500	2569	2638	2707	2776	2845	2915	2984		
85	3053	3122	3191	3260	3329	3398	3467	3536	3606	3675		
86	3744	3813	3882	3951	4020	4089	4158	4227	4296	4365		
87	4435	4504	4573	4642	4711	4780	4849	4918	4987	5056		
88	5125	5194	5263	5332	5402	5471	5540	5609	5678	5747		
89	5816	5885	5954	6023	6092	6161	6230	6299	6368	6437		
6290	6506	6575	6644	6714	6783	6852	6921	6990	7059	7128	69	69
91	7197	7266	7335	7404	7473	7542	7611	7680	7749	7818		1-7
92	7887	7956	8025	8094	8163	8232	8301	8370	8439	8508		2-14
93	8577	8646	8715	8784	8853	8922	8991	9060	9129	9198		3-21
94	9267	9336	9405	9474	9543	9612	9681	9750	9819	9888		4-28
95	9957	0026	0095	0164	0233	0302	0371	0440	0509	0578		5-34
96	799	0647	0716	0785	0854	0923	0992	1061	1130	1199	1268	6-41
97	1337	1406	1475	1544	1613	1682	1751	1820	1889	1958		7-48
98	2027	2095	2164	2233	2302	2371	2440	2509	2578	2647		8-55
99	2716	2785	2854	2923	2992	3061	3130	3199	3268	3337	68.9	9-62
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6300	799.3405	3474	3543	3612	3681	3750	3819	3888	3957	4026		69
01	4095	4164	4233	4302	4370	4439	4508	4577	4646	4715		1-7
02	4784	4853	4922	4991	5060	5128	5197	5266	5335	5404		2-14
03	5473	5542	5611	5680	5749	5818	5886	5955	6024	6093		3-21
04	6162	6231	6300	6369	6438	6506	6575	6644	6713	6782		4-28
05	6851	6920	6989	7057	7126	7195	7264	7333	7402	7471		5-34
06	7540	7608	7677	7746	7815	7884	7953	8022	8091	8159		6-41
07	8228	8297	8366	8435	8504	8573	8641	8710	8779	8848		7-48
08	8917	8986	9054	9123	9192	9261	9330	9399	9468	9536	68.8	8-55
09	9605	9674	9743	9812	9881	9949	0018	0087	0156	0225		9-62
6310	800.0294	0362	0431	0500	0569	0638	0706	0775	0844	0913		
11	0982	1051	1119	1188	1257	1326	1395	1463	1532	1601		
12	1670	1739	1807	1876	1945	2014	2083	2151	2220	2289		
13	2358	2427	2495	2564	2633	2702	2771	2839	2908	2977		
14	3046	3115	3183	3252	3321	3390	3458	3527	3596	3665		
15	3733	3802	3871	3940	4009	4077	4146	4215	4284	4353		
16	4421	4490	4559	4627	4696	4765	4834	4902	4971	5040		
17	5109	5177	5246	5315	5384	5452	5521	5590	5659	5727	68.7	
18	5796	5865	5934	6002	6071	6140	6209	6277	6346	6415		
19	6484	6552	6621	6690	6758	6827	6895	6965	7033	7102		
6320	7171	7239	7308	7377	7446	7514	7583	7652	7720	7789		
21	7858	7927	7995	8064	8133	8201	8270	8339	8407	8476		
22	8545	8614	8682	8751	8820	8888	8957	9026	9094	9163		
23	9232	9300	9369	9438	9506	9575	9644	9713	9781	9850		
24	9919	9987	0056	0125	0193	0262	0331	0399	0468	0537		
25	801.0605	0674	0743	0811	0880	0949	1017	1086	1155	1223		
26	1292	1360	1429	1498	1566	1635	1704	1772	1841	1910	68.6	
27	1978	2047	2116	2184	2253	2321	2390	2459	2527	2596		
28	2665	2733	2802	2871	2939	3008	3076	3145	3214	3282		
29	3351	3420	3488	3557	3625	3694	3763	3831	3900	3968		
6330	4037	4106	4174	4243	4311	4380	4449	4517	4586	4654		
31	4723	4792	4860	4929	4997	5066	5135	5203	5272	5340		
32	5409	5478	5546	5615	5683	5752	5821	5889	5958	6026		
33	6095	6163	6232	6301	6369	6438	6506	6575	6643	6712		
34	6781	6849	6918	6986	7055	7123	7192	7260	7329	7398		
35	7466	7535	7603	7672	7740	7809	7877	7946	8015	8083	68.5	
36	8152	8220	8289	8357	8426	8494	8563	8631	8700	8768		
37	8837	8906	8974	9043	9111	9180	9248	9317	9385	9454		
38	9522	9591	9659	9728	9796	9865	9933	0002	0070	0139		
39	802.0207	0276	0344	0413	0482	0550	0619	0687	0755	0824		
6340	0893	0961	1030	1098	1167	1235	1304	1372	1441	1509		68.5
41	1577	1646	1714	1783	1851	1920	1988	2057	2125	2194		1-7
42	2262	2331	2399	2468	2536	2605	2673	2742	2810	2879		2-14
43	2947	3016	3084	3152	3221	3289	3358	3426	3495	3563		3-21
44	3632	3700	3769	3837	3906	3974	4042	4111	4179	4248		4-27
45	4316	4385	4453	4522	4590	4658	4727	4795	4864	4932	68.4	5-34
46	5001	5069	5137	5206	5274	5343	5411	5480	5548	5617		6-41
47	5685	5753	5822	5890	5959	6027	6095	6164	6232	6301		7-48
48	6369	6438	6506	6574	6643	6711	6780	6848	6916	6985		8-55
49	7053	7122	7190	7258	7327	7395	7464	7532	7600	7669		9-62
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 63500. L. 802

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6350	802.7737	7806	7874	7942	8011	8079	8148	8216	8284	8353		
51	8421	8489	8558	8626	8695	8763	8831	8900	8968	9036		
52	9105	9173	9242	9310	9378	9447	9515	9583	9652	9720		
53	9789	9857	9925	9994	0062	0130	0199	0267	0335	0404		
54	803.0472	0540	0609	0677	0745	0814	0882	0950	1019	1087	68.3	
55	1155	1224	1292	1361	1429	1497	1566	1634	1702	1771		
56	1839	1907	1975	2044	2112	2180	2249	2317	2385	2454		
57	2522	2590	2659	2727	2795	2864	2932	3000	3069	3137		
58	3205	3273	3342	3410	3478	3547	3615	3683	3752	3820		
59	3888	3956	4025	4093	4161	4230	4298	4366	4435	4503		
6360	4571	4639	4708	4776	4844	4913	4981	5049	5117	5186		
61	5254	5322	5390	5459	5527	5595	5664	5732	5800	5868		
62	5937	6005	6073	6141	6210	6278	6346	6414	6483	6551	68.2	
63	6619	6687	6756	6824	6892	6960	7029	7097	7165	7233		
64	7302	7370	7438	7506	7575	7643	7711	7779	7848	7916		
65	7984	8052	8120	8189	8257	8325	8393	8462	8530	8598		
66	8666	8735	8803	8871	8939	9007	9076	9144	9212	9280		
67	9348	9417	9485	9553	9621	9689	9758	9826	9894	9962		
68	804.0030	0099	0167	0235	0303	0371	0440	0508	0576	0644		
69	0712	0781	0849	0917	0985	1053	1122	1190	1258	1326		
6370	1394	1462	1531	1599	1667	1735	1803	1871	1940	2008		
71	2076	2144	2212	2280	2349	2417	2485	2553	2621	2689		
72	2758	2826	2894	2962	3030	3098	3167	3235	3303	3371		
73	3439	3507	3575	3644	3712	3780	3848	3916	3984	4052	68.1	
74	4121	4189	4257	4325	4393	4461	4529	4597	4666	4734		
75	4802	4870	4938	5006	5074	5142	5211	5279	5347	5415		
76	5483	5551	5619	5687	5755	5824	5892	5960	6028	6096		
77	6164	6232	6300	6368	6437	6505	6573	6641	6709	6777		
78	6845	6913	6981	7049	7117	7186	7254	7322	7390	7458		
79	7526	7594	7662	7730	7798	7866	7934	8003	8071	8139		
6380	8207	8275	8343	8411	8479	8547	8615	8683	8751	8819		
81	8887	8955	9024	9092	9160	9228	9296	9364	9432	9500		
82	9568	9636	9704	9772	9840	9908	9976	0044	0112	0180	68	
83	805.0248	0316	0384	0453	0521	0589	0657	0725	0793	0861		
84	0929	0997	1065	1133	1201	1269	1337	1405	1473	1541		
85	1609	1677	1745	1813	1881	1949	2017	2085	2153	2221		
86	2289	2357	2425	2493	2561	2629	2697	2765	2833	2901		
87	2969	3037	3105	3173	3241	3309	3377	3445	3513	3581		
88	3649	3717	3785	3853	3921	3989	4057	4125	4193	4261		
89	4329	4397	4465	4533	4601	4669	4737	4805	4873	4941		
6390	5009	5076	5144	5212	5280	5348	5416	5484	5552	5620	68	
91	5688	5756	5824	5892	5960	6028	6096	6164	6232	6300	67.9	1-7
92	6368	6436	6503	6571	6639	6707	6775	6843	6911	6979		2-14
93	7047	7115	7183	7251	7319	7387	7455	7522	7590	7658		3-20
94	7726	7794	7862	7930	7998	8066	8134	8202	8270	8338		4-27
95	8405	8473	8541	8609	8677	8745	8813	8881	8949	9017		5-34
96	9085	9152	9220	9288	9356	9424	9492	9560	9628	9696		6-41
97	9763	9831	9899	9967	0035	0103	0171	0239	0307	0374		7-48
98	806.0442	0510	0578	0646	0714	0782	0850	0917	0985	1053		8-54
99	1121	1189	1257	1325	1393	1460	1528	1596	1664	1732		9-61
Num	0	1	2	3	4	5	6	7	8	9	D	ro.

N. 64000. L. 806.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6400	1800	1868	1935	2003	2071	2139	2207	2275	2343	2410		68
01	2478	2546	2614	2682	2750	2817	2885	2953	3021	3089	67.8	1-7
02	3157	3224	3292	3360	3428	3496	3564	3631	3699	3767		2-14
03	3835	3903	3971	4038	4106	4174	4242	4310	4378	4445		3-20
04	4513	4581	4649	4717	4784	4852	4920	4988	5056	5123		4-27
05	5191	5259	5327	5395	5463	5530	5598	5666	5734	5801		5-34
06	5869	5937	6005	6073	6140	6208	6276	6344	6412	6479		6-41
07	6547	6615	6683	6751	6818	6886	6954	7022	7089	7157		7-48
08	7225	7293	7361	7428	7496	7564	7632	7699	7767	7835		8-54
09	7903	7970	8038	8106	8174	8241	8309	8377	8445	8512		9-61
6410	8580	8648	8716	8783	8851	8919	8987	9054	9122	9190	67.7	
11	9258	9325	9393	9461	9529	9596	9664	9732	9800	9867		
12	9935	0003	0071	0138	0206	0274	0341	0409	0477	0545		
13	807.0612	0680	0748	0816	0883	0951	1019	1086	1154	1222		
14	1290	1357	1425	1493	1560	1628	1696	1763	1831	1899		
15	1967	2034	2102	2170	2237	2305	2373	2440	2508	2576		
16	2644	2711	2779	2847	2914	2982	3050	3117	3185	3253		
17	3320	3388	3456	3523	3591	3659	3726	3794	3862	3929		
18	3997	4065	4132	4200	4268	4335	4403	4471	4538	4606		
19	4674	4741	4809	4877	4944	5012	5080	5147	5215	5283		
6420	5350	5418	5486	5553	5621	5688	5756	5824	5891	5959	67.6	
21	6027	6094	6162	6230	6297	6365	6432	6500	6568	6635		
22	6703	6771	6838	6906	6973	7041	7109	7176	7244	7312		
23	7379	7447	7514	7582	7650	7717	7785	7852	7920	7988		
24	8055	8123	8190	8258	8326	8393	8461	8528	8596	8664		
25	8731	8799	8866	8934	9002	9069	9137	9204	9272	9340		
26	9407	9475	9542	9610	9677	9745	9813	9880	9948	0015		
27	808.0083	0151	0218	0286	0353	0421	0488	0556	0624	0691		
28	0759	0826	0894	0961	1029	1096	1164	1232	1299	1367		
29	1434	1502	1569	1637	1704	1772	1840	1907	1975	2042	67.5	
6430	2110	2177	2245	2312	2380	2447	2515	2582	2650	2718		
31	2785	2853	2920	2988	3055	3123	3190	3258	3325	3393		
32	3460	3528	3595	3663	3730	3798	3865	3933	4000	4068		
33	4135	4203	4270	4338	4405	4473	4541	4608	4676	4743		
34	4811	4878	4946	5013	5081	5148	5215	5283	5350	5418		
35	5485	5553	5620	5688	5755	5823	5890	5958	6025	6093		
36	6160	6228	6295	6363	6430	6498	6565	6633	6700	6768		
37	6835	6903	6970	7037	7105	7172	7240	7307	7375	7442		
38	7510	7577	7645	7712	7779	7847	7914	7982	8049	8117		
39	8184	8252	8319	8387	8454	8521	8589	8656	8724	8791	67.4	
6440	8859	8926	8993	9061	9128	9196	9263	9331	9398	9466		67.5
41	9533	9600	9668	9735	9803	9870	9937	0005	0072	0140		1-7
42	809.0207	0275	0342	0409	0477	0540	0612	0679	0746	0814		2-13
43	0881	0949	1016	1083	1151	1218	1286	1353	1420	1488		3-20
44	1555	1623	1690	1757	1825	1892	1960	2027	2094	2162		4-27
45	2229	2297	2364	2431	2499	2566	2633	2701	2768	2836		5-34
46	2903	2970	3038	3105	3172	3240	3307	3375	3442	3509		6-40
47	3577	3644	3711	3779	3846	3913	3981	4048	4116	4183		7-47
48	4250	4318	4385	4452	4520	4587	4654	4722	4789	4856	67.3	8-54
49	4924	4991	5058	5126	5193	5260	5328	5395	5462	5530		9-61
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

TO 101000.

N. 64500. L. 809

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6450	809.	5597	5664	5732	5799	5866	5934	6001	6068	6136	6203	
51		6270	6338	6405	6472	6540	6607	6674	6742	6809	6876	
52		6944	7011	7078	7145	7213	7280	7347	7415	7482	7549	
53		7617	7684	7751	7819	7886	7953	8020	8088	8155	8222	
54		8290	8357	8424	8491	8559	8626	8693	8761	8828	8895	
55		8962	9030	9097	9164	9232	9299	9366	9433	9501	9568	
56		9635	9702	9770	9837	9904	9972	0039	0106	0173	0241	
57	810.	0308	0375	0442	0510	0577	0644	0711	0779	0846	0913	
58		0980	1048	1115	1182	1249	1317	1384	1451	1518	1586	67.2
59		1653	1720	1787	1855	1922	1989	2056	2123	2191	2258	
6460		2325	2392	2460	2527	2594	2661	2728	2796	2863	2930	
61		2997	3065	3132	3199	3266	3333	3401	3468	3535	3602	
62		3669	3737	3804	3871	3938	4006	4073	4140	4207	4274	
63		4342	4409	4476	4543	4610	4677	4745	4812	4879	4946	
64		5013	5081	5148	5215	5282	5349	5417	5484	5551	5618	
65		5685	5752	5820	5887	5954	6021	6088	6155	6223	6290	
66		6357	6424	6491	6558	6626	6693	6760	6827	6894	6961	
67		7029	7096	7163	7230	7297	7364	7431	7499	7566	7633	
68		7700	7767	7834	7901	7969	8036	8103	8170	8237	8304	67.1
69		8371	8439	8506	8573	8640	8707	8774	8841	8909	8976	
6470		9043	9110	9177	9244	9311	9378	9445	9513	9580	9647	
71		9714	9781	9848	9915	9982	0050	0117	0184	0251	0318	
72	811.	0385	0452	0519	0586	0653	0721	0788	0855	0922	0989	
73		1056	1123	1190	1257	1324	1391	1459	1526	1593	1660	
74		1727	1794	1861	1928	1995	2062	2129	2196	2264	2331	
75		2398	2465	2532	2599	2666	2733	2800	2867	2934	3001	
76		3068	3135	3202	3270	3337	3404	3471	3538	3605	3672	
77		3739	3806	3873	3940	4007	4074	4141	4208	4275	4342	67
78		4409	4476	4543	4611	4678	4745	4812	4879	4946	5013	
79		5080	5147	5214	5281	5348	5415	5482	5549	5616	5683	
6480		5750	5817	5884	5951	6018	6085	6152	6219	6286	6353	
81		6420	6487	6554	6621	6688	6755	6822	6889	6956	7023	67
82		7090	7157	7224	7291	7358	7425	7492	7559	7626	7693	1-7
83		7760	7827	7894	7961	8028	8095	8162	8229	8296	8363	2-13
84		8430	8497	8564	8631	8698	8765	8832	8899	8966	9033	3-20
85		9100	9167	9234	9301	9368	9435	9502	9569	9635	9702	4-27
86		9769	9836	9903	9970	0037	0104	0171	0238	0305	0372	5-34
87	812.	0439	0506	0573	0640	0707	0774	0841	0908	0974	1041	6-40
88		1108	1175	1242	1309	1376	1443	1510	1577	1644	1711	7-47
89		1778	1845	1912	1978	2045	2112	2179	2246	2313	2380	8-54
6490		2447	2514	2581	2648	2715	2781	2848	2915	2982	3049	9-60
91		3116	3183	3250	3317	3384	3451	3517	3584	3651	3718	
92		3785	3852	3919	3986	4053	4120	4186	4253	4320	4387	
93		4454	4521	4588	4655	4722	4788	4855	4922	4989	5056	
94		5123	5190	5257	5323	5390	5457	5524	5591	5658	5725	
95		5792	5858	5925	5992	6059	6126	6193	6260	6326	6393	
96		6460	6527	6594	6661	6728	6794	6861	6928	6995	7062	
97		7129	7195	7262	7329	7396	7463	7530	7597	7663	7730	66.8
98		7797	7864	7931	7998	8064	8131	8198	8265	8332	8398	
99		8465	8532	8599	8666	8733	8799	8866	8933	9000	9067	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6500	812.9134	9200	9267	9334	9401	9468	9534	9601	9668	9735		66.5
01	9802	9868	9935	0002	0069	0136	0202	0269	0336	0403		1-7
02	813.0470	0536	0603	0670	0737	0804	0870	0937	1004	1071		2-13
03	1137	1204	1271	1338	1405	1471	1538	1605	1672	1739		3-20
04	1805	1872	1939	2006	2072	2139	2206	2273	2339	2406		4-27
05	2473	2540	2606	2673	2740	2807	2874	2940	3007	3074		5-33
06	3141	3207	3274	3341	3408	3474	3541	3608	3675	3741	66.7	6-40
07	3808	3875	3942	4008	4075	4142	4208	4275	4342	4409		7-47
08	4475	4542	4609	4676	4742	4809	4876	4942	5009	5076		8-53
09	5143	5209	5276	5343	5410	5476	5543	5610	5676	5743		9-60
6510	5810	5877	5943	6010	6077	6143	6210	6277	6343	6410		
11	6477	6544	6610	6677	6744	6810	6877	6944	7010	7077		
12	7144	7211	7277	7344	7411	7477	7544	7611	7677	7744		
13	7811	7877	7944	8011	8077	8144	8211	8277	8344	8411		
14	8477	8544	8611	8678	8744	8811	8877	8944	9011	9077		
15	9144	9211	9277	9344	9411	9477	9544	9611	9677	9744		
16	9811	9877	9944	0011	0077	0144	0211	0277	0344	0411	66.6	
17	814.0477	0544	0610	0677	0744	0810	0877	0944	1010	1077		
18	1144	1210	1277	1343	1410	1477	1543	1610	1677	1743		
19	1810	1876	1943	2010	2076	2143	2209	2276	2343	2409		
6520	2476	2543	2609	2676	2742	2809	2876	2942	3009	3075		
21	3142	3208	3275	3342	3408	3475	3542	3608	3675	3741		
22	3808	3874	3941	4008	4074	4141	4207	4274	4341	4407		
23	4474	4540	4607	4673	4740	4807	4873	4940	5006	5073		
24	5139	5206	5273	5339	5406	5472	5539	5605	5672	5739		
25	5805	5872	5938	6005	6071	6138	6204	6271	6338	6404		
26	6471	6537	6604	6670	6737	6803	6870	6936	7003	7070	66.5	
27	7136	7203	7269	7336	7402	7469	7535	7602	7668	7735		
28	7801	7868	7934	8001	8068	8134	8201	8267	8334	8400		
29	8467	8533	8600	8666	8733	8799	8866	8932	8999	9065		
6530	9132	9198	9265	9331	9398	9464	9531	9597	9664	9730		
31	9797	9863	9930	9996	0063	0129	0196	0262	0329	0395		
32	815.0462	0528	0595	0661	0728	0794	0861	0927	0994	1060		
33	1127	1193	1259	1326	1392	1459	1525	1592	1658	1725		
34	1791	1858	1924	1991	2057	2124	2190	2256	2323	2389		
35	2456	2522	2589	2655	2722	2788	2855	2921	2987	3054		
36	3120	3187	3253	3320	3386	3453	3519	3585	3652	3718	66.4	
37	3785	3851	3918	3984	4051	4117	4183	4250	4316	4383		
38	4449	4516	4582	4648	4715	4781	4848	4914	4980	5047		
39	5113	5180	5246	5313	5379	5445	5512	5578	5645	5711		
6540	5777	5844	5910	5977	6043	6109	6176	6242	6309	6375		
41	6441	6508	6574	6641	6707	6773	6840	6906	6973	7039		
42	7105	7172	7238	7305	7371	7437	7504	7570	7636	7703		
43	7769	7836	7902	7968	8035	8101	8167	8234	8300	8366		
44	8433	8499	8566	8632	8698	8765	8831	8897	8964	9030		
45	9096	9163	9229	9296	9362	9428	9494	9561	9627	9694		
46	9760	9826	9893	9959	0025	0092	0158	0224	0291	0357		
47	816.0423	0490	0556	0622	0689	0755	0821	0888	0954	1020	66.3	
48	1087	1153	1219	1286	1352	1418	1485	1551	1617	1684		
49	1750	1816	1882	1949	2015	2081	2148	2214	2280	2347		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 65500. L. 816

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6550	816.2413	2479	2546	2612	2678	2744	2811	2877	2943	3010		
51	3076	3142	3209	3275	3341	3407	3474	3540	3606	3673		
52	3739	3805	3871	3938	4004	4070	4137	4203	4269	4335		
53	4402	4468	4534	4600	4667	4733	4799	4876	4932	4998		
54	5064	5131	5197	5263	5329	5396	5462	5528	5594	5661		
55	5727	5793	5859	5926	5992	6058	6124	6191	6257	6323	66.2	
56	6389	6456	6522	6588	6654	6721	6787	6853	6919	6986		
57	7052	7118	7184	7250	7317	7383	7449	7515	7582	7648		
58	7714	7780	7847	7913	7979	8045	8111	8178	8244	8310		
59	8376	8442	8509	8575	8641	8707	8774	8840	8905	8972		
60	9038	9105	9171	9237	9303	9369	9436	9502	9568	9634		
61	9700	9767	9833	9899	9965	0031	0097	0164	0230	0296		
62	817.0362	0428	0495	0561	0627	0693	0759	0825	0892	0958		
63	1024	1090	1156	1223	1289	1355	1421	1487	1553	1620		
64	1686	1752	1818	1884	1950	2016	2083	2149	2215	2281		
65	2347	2413	2480	2546	2612	2678	2744	2810	2876	2943	66.1	
66	3009	3075	3141	3207	3273	3339	3406	3472	3538	3604		
67	3670	3736	3802	3869	3935	4001	4067	4133	4199	4265		
68	4331	4398	4464	4530	4596	4662	4728	4794	4860	4926		
69	4993	5059	5125	5191	5257	5323	5389	5455	5521	5588		
70	5654	5720	5786	5852	5918	5984	6050	6116	6182	6249		
71	6315	6381	6447	6513	6579	6645	6711	6777	6843	6909		
72	6975	7042	7108	7174	7240	7306	7372	7438	7504	7570		
73	7636	7702	7768	7834	7901	7967	8033	8099	8165	8231		
74	8297	8363	8429	8495	8561	8627	8693	8759	8825	8891		
75	8958	9024	9090	9156	9222	9288	9354	9420	9486	9552	66	
76	9618	9684	9750	9816	9882	9948	0014	0080	0146	0212		
77	818.0278	0344	0410	0476	0542	0609	0675	0741	0807	0873		
78	0939	1005	1071	1137	1203	1269	1335	1401	1467	1533		
79	1599	1665	1731	1797	1863	1929	1995	2061	2127	2193		
80	2259	2325	2391	2457	2523	2589	2655	2721	2787	2853		66
81	2919	2985	3051	3117	3183	3249	3315	3381	3447	3513		1-7
82	3579	3645	3711	3777	3843	3909	3975	4041	4107	4173		2-13
83	4239	4304	4370	4436	4502	4568	4634	4700	4766	4832		3-20
84	4898	4964	5030	5096	5162	5228	5294	5360	5426	5492		4-25
85	5558	5624	5690	5756	5822	5888	5953	6019	6085	6151	65.9	5-33
86	6217	6283	6349	6415	6481	6547	6613	6679	6745	6811		6-40
87	6877	6943	7008	7074	7140	7206	7272	7338	7404	7470		7-46
88	7536	7602	7668	7734	7800	7865	7931	7997	8063	8129		8-53
89	8195	8261	8327	8393	8459	8525	8590	8656	8722	8788		9-59
90	8854	8920	8986	9052	9118	9184	9249	9316	9381	9447		
91	9513	9579	9645	9711	9777	9843	9908	9974	0040	0106		
92	819.0172	0238	0304	0370	0435	0501	0567	0633	0699	0765		
93	0831	0897	0962	1028	1094	1160	1226	1292	1358	1424		
94	1489	1555	1621	1687	1753	1819	1885	1950	2016	2082		
95	2148	2214	2280	2346	2411	2477	2543	2609	2675	2741	65.8	
96	2806	2872	2938	3004	3070	3136	3201	3267	3333	3399		
97	3455	3521	3586	3652	3728	3794	3860	3926	3991	4057		
98	4123	4189	4255	4321	4386	4452	4518	4584	4650	4715		
99	4781	4847	4913	4979	5044	5110	5176	5242	5308	5374		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6600	819.5439	5505	5571	5637	5703	5768	5834	5900	5966	6031		
01	6097	6163	6229	6295	6360	6426	6492	6558	6624	6689		
02	6755	6821	6887	6952	7018	7084	7150	7216	7281	7347		
03	7413	7479	7544	7610	7676	7742	7808	7873	7939	8005		
04	8071	8136	8202	8268	8334	8399	8465	8531	8597	8662		
05	8728	8794	8860	8925	8991	9057	9123	9188	9254	9320	65.7	
06	9386	9451	9517	9583	9649	9714	9780	9846	9912	9977		
07	820.0043	0109	0174	0240	0306	0372	0437	0503	0569	0635		
08	0700	0766	0832	0897	0963	1029	1095	1160	1226	1292		
09	1357	1423	1489	1555	1620	1686	1752	1817	1883	1949		
6610	2015	2080	2146	2212	2277	2343	2409	2474	2540	2606		
11	2672	2737	2803	2869	2934	3000	3066	3131	3197	3263		
12	3328	3394	3460	3525	3591	3657	3722	3788	3854	3920		
13	3985	4051	4117	4182	4248	4314	4379	4445	4511	4576		
14	4642	4708	4773	4839	4904	4970	5036	5101	5167	5233		
15	5298	5364	5430	5495	5561	5627	5692	5758	5824	5889	65.6	
16	5955	6021	6086	6152	6217	6283	6349	6414	6480	6546		
17	6611	6677	6743	6808	6874	6939	7005	7071	7136	7202		
18	7268	7333	7399	7464	7530	7596	7661	7727	7793	7858		
19	7924	7989	8055	8121	8186	8252	8317	8383	8449	8514		
6620	8580	8645	8711	8777	8842	8908	8973	9039	9105	9170	65.5	
21	9236	9301	9367	9433	9498	9564	9629	9695	9761	9826	1-7	
22	9892	9957	0023	0088	0154	0220	0285	0351	0416	0482	2-13	
23	821.0548	0613	0679	0744	0810	0875	0941	1006	1072	1138	3-20	
24	1203	1269	1334	1400	1465	1531	1597	1662	1728	1793	4-26	
25	1859	1924	1990	2055	2121	2187	2252	2318	2383	2449	65.5	5-33
26	2514	2580	2645	2711	2776	2842	2908	2973	3039	3104	6-39	
27	3170	3235	3301	3366	3432	3497	3563	3628	3694	3759	7-46	
28	3825	3890	3956	4022	4087	4153	4218	4284	4349	4415	8-52	
29	4480	4546	4611	4677	4742	4808	4873	4939	5004	5070	9-59	
6630	5135	5201	5266	5332	5397	5463	5528	5594	5659	5725		
31	5790	5856	5921	5987	6052	6118	6183	6249	6314	6380		
32	6445	6511	6576	6642	6707	6773	6838	6903	6969	7034		
33	7100	7165	7231	7296	7362	7427	7493	7558	7624	7689		
34	7755	7820	7886	7951	8016	8082	8147	8213	8278	8344		
35	8409	8475	8540	8606	8671	8736	8802	8867	8933	8998		
36	9064	9129	9195	9260	9325	9391	9456	9522	9587	9653	65.4	
37	9718	9784	9849	9914	9980	0045	0111	0176	0242	0307		
38	822.0372	0438	0503	0569	0634	0700	0765	0830	0896	0961		
39	1027	1092	1157	1223	1288	1354	1419	1485	1550	1615		
6640	1681	1746	1812	1877	1942	2008	2073	2139	2204	2269		
41	2335	2400	2466	2531	2596	2662	2727	2793	2858	2923		
42	2989	3054	3119	3185	3250	3316	3381	3446	3512	3577		
43	3642	3708	3773	3839	3904	3969	4035	4100	4165	4231		
44	4296	4362	4427	4492	4558	4623	4688	4754	4819	4884		
45	4950	5015	5081	5146	5211	5277	5342	5407	5473	5538		
46	5603	5669	5734	5799	5865	5930	5995	6061	6126	6191	65.3	
47	6257	6322	6387	6453	6518	6583	6649	6714	6779	6845		
48	6910	6975	7041	7106	7171	7237	7302	7367	7433	7498		
49	7563	7629	7694	7759	7825	7890	7955	8020	8086	8151		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 66500. L. 822

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6650	822	8216	8282	8347	8412	8478	8543	8608	8674	8739	8804	
51	8869	8935	9000	9065	9131	9196	9261	9326	9392	9457		
52	9522	9588	9653	9718	9783	9849	9914	9979	0045	0110		
53	823	0175	0240	0306	0371	0436	0502	0567	0632	0697	0763	
54	0828	0893	0958	1024	1089	1154	1220	1285	1350	1415		
55	1481	1546	1611	1676	1742	1807	1872	1937	2003	2068		
56	2133	2198	2264	2329	2394	2459	2525	2590	2655	2720	65.2	
57	2786	2851	2916	2981	3046	3112	3177	3242	3307	3373		
58	3438	3503	3568	3634	3699	3764	3829	3894	3960	4025		
59	4090	4155	4221	4286	4351	4416	4481	4547	4612	4677		
6660	4742	4807	4873	4938	5003	5068	5133	5200	5264	5329		
61	5394	5459	5525	5590	5655	5720	5785	5851	5916	5981		
62	6046	6111	6177	6242	6307	6372	6437	6503	6568	6633		
63	6698	6763	6828	6894	6959	7024	7089	7154	7219	7285		
64	7350	7415	7480	7545	7611	7676	7741	7806	7871	7936		
65	8002	8067	8132	8197	8262	8327	8392	8458	8523	8588		
66	8653	8718	8783	8848	8914	8979	9044	9109	9174	9239	65.1	
67	9305	9370	9435	9500	9565	9630	9695	9760	9825	9891		
68	9956	0021	0086	0151	0216	0282	0347	0412	0477	0542		
69	824	0607	0672	0737	0802	0868	0933	0998	1063	1128	1193	
6670	1258	1323	1389	1454	1519	1584	1649	1714	1779	1844		
71	1909	1974	2040	2105	2170	2235	2300	2365	2430	2495		
72	2560	2625	2691	2756	2821	2886	2951	3016	3081	3146		
73	3211	3276	3341	3406	3472	3537	3602	3667	3732	3797		
74	3862	3927	3992	4057	4122	4187	4252	4317	4383	4448		
75	4513	4578	4643	4708	4773	4838	4903	4968	5033	5098		
76	5163	5228	5293	5358	5423	5488	5554	5619	5684	5749	65	
77	5814	5879	5944	6009	6074	6139	6204	6269	6334	6399		
78	6464	6529	6594	6659	6724	6789	6854	6919	6984	7049		
79	7114	7179	7244	7309	7374	7439	7504	7569	7634	7700		
6680	7765	7830	7895	7960	8025	8090	8155	8220	8285	8350	65	
81	8415	8480	8545	8610	8675	8740	8805	8870	8935	9000	1-6	
82	9065	9130	9195	9260	9325	9390	9455	9520	9585	9650	2-13	
83	9715	9780	9845	9910	9974	0039	0104	0169	0234	0299	3-19	
84	825	0364	0429	0494	0559	0624	0689	0754	0819	0884	4-26	
85	1014	1079	1144	1209	1274	1339	1404	1469	1534	1599	5-32	
86	1664	1729	1794	1859	1923	1988	2053	2118	2183	2248	6-39	
87	2313	2378	2443	2508	2573	2638	2703	2768	2833	2898	64.9	
88	2963	3028	3092	3157	3222	3287	3352	3417	3482	3547	7-45	
89	3612	3677	3742	3807	3872	3937	4001	4066	4131	4196	8-52	
6690	4261	4326	4391	4456	4521	4586	4651	4716	4781	4845	9-58	
91	4910	4975	5040	5105	5170	5235	5300	5365	5429	5494		
92	5559	5624	5689	5754	5819	5884	5949	6014	6078	6143		
93	6208	6273	6338	6403	6468	6533	6598	6662	6727	6792		
94	6857	6922	6987	7052	7117	7181	7246	7311	7376	7441		
95	7506	7571	7635	7700	7765	7830	7895	7960	8025	8089		
96	8154	8219	8284	8349	8414	8479	8544	8608	8673	8738		
97	8803	8868	8933	8997	9062	9127	9192	9257	9322	9387	64.8	
98	9451	9516	9581	9646	9711	9776	9840	9905	9970	0035		
99	826	0100	0165	0229	0294	0359	0424	0489	0554	0618	0683	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.67000. L. 826.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6700	826.0748	0813	0878	0942	1007	1072	1137	1202	1267	1331		
01	1396	1461	1526	1591	1655	1720	1785	1850	1915	1979		
02	2044	2109	2174	2239	2303	2368	2433	2498	2563	2627		
03	2692	2757	2822	2887	2951	3016	3081	3146	3210	3275		
04	3340	3405	3470	3534	3599	3664	3729	3793	3858	3923		
05	3988	4053	4117	4182	4247	4312	4376	4441	4506	4571		
06	4635	4700	4765	4830	4894	4959	5024	5089	5154	5218		
07	5283	5348	5413	5477	5542	5607	5672	5736	5801	5866	64.7	
08	5931	5995	6060	6125	6189	6254	6319	6384	6448	6513		
09	6578	6643	6707	6772	6837	6902	6966	7031	7096	7160		
6710	7225	7290	7355	7419	7484	7549	7613	7678	7743	7808		
11	7872	7937	8002	8066	8131	8196	8261	8325	8390	8455		
12	8519	8584	8649	8714	8778	8843	8908	8972	9037	9102		
13	9166	9231	9296	9361	9425	9490	9555	9619	9684	9749		
14	9813	9878	9943	0007	0072	0137	0201	0266	0331	0395		
15	827.0460	0525	0589	0654	0719	0783	0848	0913	0977	1042		
16	1107	1171	1236	1301	1365	1430	1495	1559	1624	1689		
17	1753	1818	1883	1947	2012	2077	2141	2206	2271	2335		
18	2400	2465	2529	2594	2659	2723	2788	2852	2917	2982	64.6	
19	3046	3111	3176	3240	3305	3370	3434	3499	3563	3628		
6720	3693	3757	3822	3887	3951	4016	4080	4145	4210	4274		
21	4339	4404	4468	4533	4597	4662	4727	4791	4856	4920		
22	4985	5050	5114	5179	5243	5308	5373	5437	5502	5566		
23	5631	5696	5760	5825	5889	5954	6019	6083	6148	6212		
24	6277	6342	6406	6471	6535	6600	6665	6729	6794	6858		
25	6923	6987	7052	7117	7181	7246	7310	7375	7439	7504		
26	7569	7633	7698	7762	7827	7891	7956	8021	8085	8150		
27	8214	8279	8343	8408	8472	8537	8602	8666	8731	8795		
28	8860	8924	8989	9053	9118	9183	9247	9312	9376	9441	64.5	
29	9505	9570	9634	9699	9763	9828	9892	9957	0022	0086		
6730	828.0151	0215	0280	0344	0409	0473	0538	0602	0667	0731		64.5
31	0796	0860	0925	0989	1054	1118	1183	1247	1312	1376	1—6	
32	1441	1505	1570	1634	1699	1764	1828	1893	1957	2022	2—13	
33	2086	2151	2215	2280	2344	2409	2473	2538	2602	2667	3—19	
34	2731	2796	2860	2925	2989	3054	3118	3182	3247	3311	4—26	
35	3376	3440	3505	3569	3634	3698	3763	3827	3892	3956	5—32	
36	4021	4085	4150	4214	4279	4343	4408	4472	4536	4601	6—39	
37	4665	4730	4794	4859	4923	4988	5052	5117	5181	5246	7—45	
38	5310	5374	5439	5503	5568	5632	5697	5761	5826	5890	8—52	
39	5955	6019	6083	6148	6212	6277	6341	6406	6470	6534	9—58	
6740	6599	6663	6728	6792	6857	6921	6986	7050	7114	7179		
41	7243	7308	7372	7436	7501	7565	7630	7694	7759	7823		
42	7887	7952	8016	8081	8145	8210	8274	8338	8403	8467		
43	8532	8596	8660	8725	8789	8854	8918	8982	9047	9111		
44	9176	9240	9304	9369	9433	9498	9562	9626	9691	9755		
45	9820	9884	9948	0013	0077	0141	0206	0270	0335	0399		
46	829.0463	0528	0592	0656	0721	0785	0850	0914	0978	1043		
47	1107	1171	1236	1300	1365	1429	1493	1558	1622	1686		
48	1751	1815	1879	1944	2008	2072	2137	2201	2266	2330		
49	2394	2459	2523	2587	2652	2716	2780	2845	2909	2973	64.3	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 67500. L. 829

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6750	829	3038	3102	3166	3231	3295	3359	3424	3488	3552	3617	
51		3681	3745	3810	3874	3938	4003	4067	4131	4196	4260	
52		4324	4389	4453	4517	4582	4646	4710	4775	4839	4903	
53		4967	5032	5096	5160	5225	5289	5353	5418	5482	5546	
54		5611	5675	5739	5803	5868	5932	5996	6061	6125	6189	
55		6254	6318	6382	6446	6511	6575	6639	6704	6768	6832	
56		6896	6961	7025	7089	7153	7218	7282	7346	7411	7475	
57		7539	7603	7668	7732	7796	7860	7925	7989	8053	8118	
58		8182	8246	8310	8375	8439	8503	8567	8632	8696	8760	
59		8824	8889	8953	9017	9081	9146	9210	9274	9338	9403	64.2
6760		9467	9531	9595	9660	9724	9788	9852	9917	9981	10045	
61	830	0109	0174	0238	0302	0366	0430	0495	0559	0623	0687	
62		0752	0816	0880	0944	1009	1073	1137	1201	1265	1330	
63		1394	1458	1522	1586	1651	1715	1779	1843	1908	1972	
64		2036	2100	2164	2229	2293	2357	2421	2485	2550	2614	
65		2678	2742	2806	2871	2935	2999	3063	3127	3192	3256	
66		3320	3384	3448	3512	3577	3641	3705	3769	3833	3898	
67		3962	4026	4090	4154	4218	4283	4347	4411	4475	4539	
68		4604	4668	4732	4796	4860	4924	4988	5053	5117	5181	
69		5245	5309	5373	5438	5502	5566	5630	5694	5758	5822	
6770		5887	5951	6015	6079	6143	6207	6272	6336	6400	6464	64.1
71		6528	6592	6656	6721	6785	6849	6913	6977	7041	7105	
72		7169	7234	7298	7362	7426	7490	7554	7618	7682	7747	
73		7811	7875	7939	8003	8067	8131	8195	8260	8324	8388	
74		8452	8516	8580	8644	8708	8772	8837	8901	8965	9029	
75		9093	9157	9221	9285	9349	9413	9478	9542	9606	9670	
76		9734	9798	9862	9926	9990	0054	0118	0183	0247	0311	
77	831	0375	0439	0503	0567	0631	0695	0759	0823	0887	0952	
78		1016	1080	1144	1208	1272	1336	1400	1464	1528	1592	
79		1656	1720	1784	1848	1913	1977	2041	2105	2169	2233	
6780		2297	2361	2425	2489	2553	2617	2681	2745	2809	2873	64
81		2937	3001	3065	3130	3194	3258	3322	3386	3450	3514	1-6
82		3578	3642	3706	3770	3834	3898	3962	4026	4090	4154	2-13
83		4218	4282	4346	4410	4474	4538	4602	4666	4730	4794	3-19
84		4858	4922	4986	5050	5114	5178	5242	5306	5370	5434	4-26
85		5499	5562	5626	5690	5754	5818	5883	5947	6011	6075	5-32
86		6139	6203	6266	6330	6394	6458	6522	6586	6650	6714	6-38
87		6778	6842	6906	6970	7034	7098	7162	7226	7290	7354	7-45
88		7418	7482	7546	7610	7674	7738	7802	7866	7930	7994	8-51
89		8058	8122	8186	8250	8314	8378	8442	8506	8570	8634	9-58
6790		8698	8762	8826	8890	8954	9017	9081	9145	9209	9273	
91		9337	9401	9465	9529	9593	9657	9721	9785	9849	9913	63.9
92		9977	0041	0105	0169	0232	0296	0360	0424	0488	0552	
93	832	0616	0680	0744	0808	0872	0936	1000	1064	1128	1191	
94		1255	1319	1383	1447	1511	1575	1639	1703	1767	1831	
95		1895	1959	2022	2086	2150	2214	2278	2342	2406	2470	
96		2534	2598	2662	2725	2789	2853	2917	2981	3045	3109	
97		3173	3237	3300	3364	3428	3492	3556	3620	3684	3748	
98		3812	3875	3939	4003	4067	4131	4195	4259	4323	4386	
99		4450	4514	4578	4642	4706	4770	4834	4897	4961	5025	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 68000. L. 832.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6800	832.	5089	5153	5217	5281	5345	5408	5472	5536	5600	5664	64
01		5728	5792	5855	5919	5983	6047	6111	6175	6239	6302	1-6
02		6366	6430	6494	6558	6622	6685	6749	6813	6877	6941	63.82-13
03		7005	7068	7132	7196	7260	7324	7388	7452	7515	7579	3-19
04		7643	7707	7771	7834	7898	7962	8025	8090	8154	8217	4-26
05		8281	8345	8409	8473	8537	8600	8664	8728	8792	8856	5-32
06		8919	8983	9047	9111	9175	9238	9302	9366	9430	9494	6-38
07		9558	9621	9685	9749	9813	9876	9940	0004	0068	0132	7-45
08	833.	0195	0259	0323	0387	0451	0514	0578	0642	0706	0770	8-51
09		0833	0897	0961	1025	1088	1152	1216	1280	1344	1407	9-58
5810		1471	1535	1599	1662	1726	1790	1854	1917	1981	2045	
11		2109	2173	2236	2300	2364	2428	2491	2555	2619	2683	
12		2746	2810	2874	2938	3001	3065	3129	3193	3256	3320	63.7
13		3384	3448	3511	3575	3639	3703	3766	3830	3894	3958	
14		4021	4085	4149	4212	4276	4340	4404	4467	4531	4595	
15		4659	4722	4786	4850	4913	4977	5041	5105	5168	5232	
16		5296	5359	5423	5487	5551	5614	5678	5742	5805	5869	
17		5933	5997	6060	6124	6188	6251	6315	6379	6443	6506	
18		6570	6634	6697	6761	6825	6888	6952	7016	7079	7143	
19		7207	7271	7334	7398	7462	7525	7589	7653	7716	7780	
6820		7844	7907	7971	8035	8098	8162	8226	8289	8353	8417	
21		8480	8544	8608	8671	8735	8799	8862	8926	8990	9053	
22		9117	9181	9244	9308	9372	9435	9499	9563	9626	9690	
23		9754	9817	9881	9945	0008	0072	0136	0199	0263	0326	63.6
24	834.	0390	0454	0517	0581	0645	0708	0772	0836	0899	0963	
25		1027	1090	1154	1217	1281	1345	1408	1472	1536	1599	
26		1663	1726	1790	1854	1917	1981	2045	2108	2172	2235	
27		2299	2363	2426	2490	2553	2617	2681	2744	2808	2871	
28		2935	2999	3062	3126	3189	3253	3317	3380	3444	3507	
29		3571	3635	3698	3762	3825	3889	3953	4016	4080	4143	
6830		4207	4271	4334	4398	4461	4525	4588	4652	4716	4779	
31		4843	4906	4970	5034	5097	5161	5224	5288	5351	5415	
32		5479	5542	5606	5669	5733	5796	5860	5923	5987	6051	
33		6114	6178	6241	6305	6368	6432	6496	6559	6623	6686	
34		6750	6813	6877	6940	7004	7067	7131	7195	7258	7322	63.5
35		7385	7449	7512	7576	7639	7703	7766	7830	7893	7957	
36		8021	8084	8148	8211	8275	8338	8402	8465	8529	8592	
37		8656	8719	8783	8846	8910	8973	9037	9100	9164	9227	
38		9291	9354	9418	9481	9545	9608	9672	9735	9799	9862	
39		9926	9989	0053	0116	0180	0243	0307	0370	0434	0497	
6840	835.	0561	0624	0688	0751	0815	0878	0942	1005	1069	1132	63.5
41		1196	1259	1323	1386	1450	1513	1577	1640	1704	1767	1-6
42		1831	1894	1958	2021	2085	2148	2211	2275	2338	2402	2-13
43		2465	2529	2592	2656	2719	2783	2846	2910	2973	3037	3-19
44		3100	3163	3227	3290	3354	3417	3481	3544	3608	3671	4-25
45		3735	3798	3861	3925	3988	4052	4115	4179	4242	4305	63.4
46		4369	4432	4496	4559	4623	4686	4750	4813	4876	4940	5-32
47		5003	5067	5130	5194	5257	5320	5384	5447	5511	5574	6-38
48		5638	5701	5764	5828	5891	5955	6018	6081	6145	6208	7-44
49		6272	6335	6398	6462	6525	6589	6652	6715	6779	6842	8-51
9-57												
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

10 101000.

N. 68500. L 835

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6850	835	6906	6969	7032	7096	7159	7223	7286	7349	7413	7476	
51	7540	7603	7666	7730	7793	7857	7920	7983	8047	8110		
52	8174	8237	8300	8364	8427	8490	8554	8617	8681	8744		
53	8807	8871	8934	8997	9061	9124	9187	9251	9314	9378		
54	9441	9504	9568	9631	9694	9758	9821	9884	9948	0011		
55	836	0075	0138	0201	0265	0328	0391	0455	0518	0581	0645	63.3
56	0708	0771	0835	0898	0961	1025	1088	1151	1215	1278		
57	1341	1405	1468	1531	1595	1658	1721	1785	1848	1911		
58	1975	2038	2101	2165	2228	2291	2355	2418	2481	2545		
59	2608	2671	2735	2798	2861	2925	2988	3051	3114	3178		
6860		3241	3304	3368	3431	3494	3558	3621	3684	3748	3811	
61		3874	3937	4001	4064	4127	4191	4254	4317	4381	4444	
62		4507	4570	4634	4697	4760	4824	4887	4950	5013	5077	
63		5140	5203	5266	5330	5393	5456	5520	5583	5646	5709	
64		5773	5836	5899	5963	6026	6089	6152	6216	6279	6342	
65		6405	6469	6532	6595	6658	6722	6785	6848	6911	6975	63.2
66		7038	7101	7164	7228	7291	7354	7417	7481	7544	7607	
67		7670	7734	7797	7860	7923	7987	8050	8113	8176	8240	
68		8303	8366	8429	8493	8556	8619	8682	8745	8809	8872	
69		8935	8998	9062	9125	9188	9251	9314	9378	9441	9504	
6870		9567	9631	9694	9757	9820	9883	9947	0010	0073	0136	
71	837	0199	0263	0326	0389	0452	0515	0579	0642	0705	0768	
72		0832	0895	0958	1021	1084	1147	1211	1274	1337	1400	
73		1463	1527	1590	1653	1716	1779	1843	1906	1969	2032	
74		2095	2158	2222	2285	2348	2411	2474	2538	2601	2664	
75		2727	2790	2853	2916	2980	3043	3106	3169	3232	3295	
76		3359	3422	3485	3548	3611	3674	3738	3801	3864	3927	
77		3990	4053	4116	4180	4243	4306	4369	4432	4495	4559	63.1
78		4622	4685	4748	4811	4874	4937	5000	5064	5127	5190	
79		5253	5316	5379	5442	5506	5569	5632	5695	5758	5821	
6880		5884	5947	6011	6074	6137	6200	6263	6326	6389	6452	
81		6516	6579	6642	6705	6768	6831	6894	6957	7020	7084	
82		7147	7210	7273	7336	7399	7462	7525	7588	7651	7715	
83		7778	7841	7904	7967	8030	8093	8156	8219	8282	8345	
84		8409	8472	8535	8598	8661	8724	8787	8850	8913	8976	
85		9039	9102	9165	9229	9292	9355	9418	9481	9544	9607	
86		9670	9733	9796	9859	9922	9985	0049	0112	0175	0238	
87	838	0301	0364	0427	0490	0553	0616	0679	0742	0805	0868	
88		0931	0994	1057	1120	1184	1247	1310	1373	1436	1499	63
89		1562	1625	1688	1751	1814	1877	1940	2003	2066	2129	
6890		2192	2255	2318	2381	2444	2507	2570	2633	2696	2759	63
91		2822	2885	2948	3012	3075	3138	3201	3264	3327	3390	1-6
92		3453	3516	3579	3642	3705	3768	3831	3894	3957	4020	2-13
93		4083	4146	4209	4272	4335	4398	4461	4524	4587	4650	3-15
94		4713	4776	4839	4902	4965	5028	5091	5154	5217	5280	4-25
95		5343	5406	5469	5532	5595	5658	5721	5784	5847	5910	5-31
96		5973	6035	6098	6161	6224	6287	6350	6413	6476	6539	6-38
97		6602	6665	6728	6791	6854	6917	6980	7043	7106	7169	7-44
98		7232	7295	7358	7421	7484	7547	7610	7673	7735	7798	8-50
99		7861	7924	7987	8050	8113	8176	8239	8302	8365	8428	62.9 9-57
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 69000. L. 838.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6900	838.8491	8554	8617	8680	8743	8806	8868	8931	8994	9057		63
01	9120	9183	9246	9309	9372	9435	9498	9561	9624	9687		1-6
02	9750	9812	9875	9938	0001	0064	0127	0190	0253	0316		2-13
03	839.0379	0442	0505	0567	0630	0693	0756	0819	0882	0945		3-19
04	1008	1071	1134	1196	1259	1322	1385	1448	1511	1574		4-25
05	1637	1700	1763	1825	1888	1951	2014	2077	2140	2203		5-31
06	2266	2329	2391	2454	2517	2580	2643	2706	2769	2832		6-38
07	2895	2957	3020	3083	3146	3209	3272	3335	3398	3460		7-44
08	3523	3586	3649	3712	3775	3838	3900	3963	4026	4089		8-50
09	4152	4215	4278	4340	4403	4466	4529	4592	4655	4718		9-57
6910	4780	4843	4906	4969	5032	5095	5158	5220	5283	5346	62.8	
11	5409	5472	5535	5597	5660	5723	5786	5849	5912	5974		
12	6037	6100	6163	6226	6289	6351	6414	6477	6540	6603		
13	6666	6728	6791	6854	6917	6980	7042	7105	7168	7231		
14	7294	7357	7419	7482	7545	7608	7671	7733	7796	7859		
15	7922	7985	8047	8110	8173	8236	8299	8361	8424	8487		
16	8550	8613	8675	8738	8801	8864	8927	8989	9052	9115		
17	9178	9240	9303	9366	9429	9492	9554	9617	9680	9743		
18	9806	9868	9931	9994	0057	0119	0182	0245	0308	0370		
19	840.0433	0496	0559	0622	0684	0747	0810	0873	0935	0998		
6920	1061	1124	1186	1249	1312	1375	1437	1500	1563	1626		
21	1688	1751	1814	1877	1939	2002	2065	2128	2190	2253	62.7	
22	2316	2379	2441	2504	2567	2630	2692	2755	2818	2881		
23	2943	3006	3069	3131	3194	3257	3320	3382	3445	3508		
24	3571	3633	3696	3759	3821	3884	3947	4010	4072	4135		
25	4198	4260	4323	4386	4449	4511	4574	4637	4699	4762		
26	4825	4888	4950	5013	5076	5138	5201	5264	5326	5389		
27	5452	5515	5577	5640	5703	5765	5828	5891	5953	6016		
28	6079	6141	6204	6267	6329	6392	6455	6518	6580	6643		
29	6706	6768	6831	6894	6956	7019	7082	7144	7207	7270		
6930	7332	7395	7458	7520	7583	7646	7708	7771	7834	7896		
31	7959	8022	8084	8147	8210	8272	8335	8398	8460	8523		
32	8586	8648	8711	8773	8836	8899	8961	9024	9087	9149	62.6	
33	9212	9275	9337	9400	9463	9525	9588	9650	9713	9776		
34	9838	9901	9964	0026	0089	0151	0214	0277	0339	0402		
35	841.0465	0527	0590	0652	0715	0778	0840	0903	0966	1028		
36	1091	1153	1216	1279	1341	1404	1466	1529	1592	1654		
37	1717	1780	1842	1905	1967	2030	2093	2155	2218	2280		
38	2343	2406	2468	2531	2593	2656	2718	2781	2844	2906		
39	2969	3031	3094	3157	3219	3282	3344	3407	3469	3532		
6940	3595	3657	3720	3782	3845	3908	3970	4033	4095	4158		
41	4220	4283	4346	4408	4471	4533	4596	4658	4721	4783		
42	4846	4909	4971	5034	5096	5159	5221	5284	5346	5409		
43	5472	5534	5597	5659	5722	5784	5847	5909	5972	6035	62.5	
44	6097	6160	6222	6285	6347	6410	6472	6535	6597	6660		
45	6723	6785	6848	6910	6973	7035	7098	7160	7223	7285		
46	7348	7410	7473	7535	7598	7660	7723	7785	7848	7910		
47	7973	8035	8098	8160	8223	8286	8348	8411	8473	8536		
48	8598	8661	8723	8786	8848	8911	8973	9036	9098	9161		
49	9223	9286	9348	9411	9473	9536	9598	9661	9723	9786		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 69500. L. 841

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
6950	841	9848	9910	9973	0035	0098	0160	0223	0285	0348	0410	62.5
51	842	0473	0535	0598	0660	0723	0785	0848	0910	0973	1035	1-6
52		1098	1160	1223	1285	1347	1410	1472	1535	1597	1660	2-12
53		1722	1785	1847	1910	1972	2035	2097	2159	2222	2284	3-19
54		2347	2409	2472	2534	2597	2659	2722	2784	2846	2909	4-25
55		2971	3034	3096	3159	3221	3284	3346	3408	3471	3533	5-31
56		3596	3658	3721	3783	3845	3908	3970	4033	4095	4158	6-37
57		4220	4282	4345	4407	4470	4532	4595	4657	4719	4782	7-44
58		4844	4907	4969	5031	5094	5156	5219	5281	5343	5406	8-50
59		5468	5531	5593	5656	5718	5780	5843	5905	5968	6030	9-56
60		6092	6155	6217	6280	6342	6404	6467	6529	6592	6654	
61		6716	6779	6841	6903	6966	7028	7091	7153	7215	7278	
62		7340	7403	7465	7527	7590	7652	7714	7777	7839	7902	
63		7964	8026	8089	8151	8213	8276	8338	8400	8463	8525	
64		8588	8650	8712	8775	8837	8899	8962	9024	9086	9149	
65		9211	9274	9336	9398	9461	9523	9585	9648	9710	9772	62.3
66		9835	9897	9959	0022	0084	0146	0209	0271	0333	0396	
67	843	0458	0520	0583	0645	0707	0770	0832	0894	0957	1019	
68		1081	1144	1206	1268	1331	1393	1455	1518	1580	1642	
69		1705	1767	1829	1892	1954	2016	2078	2141	2203	2265	
6970		2328	2390	2452	2515	2577	2639	2702	2764	2826	2888	
71		2951	3013	3075	3138	3200	3262	3325	3387	3449	3511	
72		3574	3636	3698	3761	3823	3885	3947	4010	4072	4134	
73		4197	4259	4321	4383	4446	4508	4570	4633	4695	4757	
74		4819	4882	4944	5006	5068	5131	5193	5255	5318	5380	
75		5442	5504	5567	5629	5691	5753	5816	5878	5940	6002	
76		6065	6127	6189	6251	6314	6376	6438	6500	6563	6625	
77		6687	6749	6812	6874	6936	6998	7061	7123	7185	7247	62.2
78		7310	7372	7434	7496	7559	7621	7683	7745	7808	7870	
79		7932	7994	8056	8119	8181	8243	8305	8368	8430	8492	
6980		8554	8616	8679	8741	8803	8865	8927	8990	9052	9114	
81		9176	9238	9301	9363	9425	9487	9550	9612	9674	9736	
82		9798	9861	9923	9985	0047	0109	0172	0234	0296	0358	
83	844	0420	0483	0545	0607	0669	0731	0794	0856	0918	0980	
84		1042	1104	1167	1229	1291	1353	1415	1478	1540	1602	
85		1664	1726	1788	1851	1913	1975	2037	2099	2161	2224	
86		2286	2348	2410	2472	2534	2597	2659	2721	2783	2845	
87		2907	2970	3032	3094	3156	3218	3280	3342	3405	3467	
88		3529	3591	3653	3715	3778	3840	3902	3964	4026	4088	62.1
89		4150	4212	4275	4337	4399	4461	4523	4585	4647	4710	
6990		4772	4834	4896	4958	5020	5082	5144	5207	5269	5331	62
91		5393	5455	5517	5579	5641	5704	5766	5828	5890	5952	1-6
92		6014	6076	6138	6200	6263	6325	6387	6449	6511	6573	2-12
93		6635	6697	6759	6822	6884	6946	7008	7070	7132	7194	3-19
94		7255	7318	7380	7443	7505	7567	7629	7691	7753	7815	4-25
95		7877	7939	8001	8063	8125	8188	8250	8312	8374	8436	5-31
96		8498	8560	8622	8684	8746	8808	8870	8932	8995	9057	6-37
97		9119	9181	9243	9305	9367	9429	9491	9553	9615	9677	7-43
98		9739	9801	9863	9925	9988	0050	0112	0174	0236	0298	8-50
99	845	0360	0422	0484	0546	0608	0670	0732	0794	0856	0918	9-56
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7000	845.0980	1042	1104	1166	1229	1291	1353	1415	1477	1539	62	62
01	1601	1663	1725	1787	1849	1911	1973	2035	2097	2159		1-6
02	2221	2283	2345	2407	2469	2531	2593	2655	2717	2779		2-12
03	2841	2903	2965	3027	3089	3151	3213	3275	3337	3399		3-19
04	3461	3523	3585	3647	3709	3771	3833	3895	3957	4019		4-25
05	4081	4143	4205	4267	4329	4391	4453	4515	4577	4639		5-31
06	4701	4763	4825	4887	4949	5011	5073	5135	5197	5259		6-37
07	5321	5383	5445	5507	5569	5631	5693	5755	5817	5879		7-43
08	5941	6003	6065	6127	6189	6251	6313	6375	6437	6499		8-50
09	6561	6623	6684	6746	6808	6870	6932	6994	7056	7118		9-56
7010	7180	7242	7304	7366	7428	7490	7552	7614	7676	7738	61.9	
11	7800	7862	7924	7985	8047	8109	8171	8233	8295	8357		
12	8419	8481	8543	8605	8667	8729	8791	8853	8914	8976		
13	9038	9100	9162	9224	9286	9348	9410	9472	9534	9596		
14	9658	9719	9781	9843	9905	9967	0029	0091	0153	0215		
15	846.0277	0339	0401	0462	0524	0586	0648	0710	0772	0834		
16	0896	0958	1020	1081	1143	1205	1267	1329	1391	1453		
17	1515	1577	1638	1700	1762	1824	1886	1948	2010	2072		
18	2134	2195	2257	2319	2381	2443	2505	2567	2629	2690		
19	2752	2814	2876	2938	3000	3062	3124	3185	3247	3309		
7020	3371	3433	3495	3557	3619	3680	3742	3804	3866	3928		
21	3990	4052	4113	4175	4237	4299	4361	4423	4485	4546		
22	4608	4670	4732	4794	4856	4917	4979	5041	5103	5165	61.8	
23	5227	5288	5350	5412	5474	5536	5598	5659	5721	5783		
24	5845	5907	5969	6030	6092	6154	6216	6278	6340	6401		
25	6463	6525	6587	6649	6711	6772	6834	6896	6958	7020		
26	7081	7143	7205	7267	7329	7390	7452	7514	7575	7638		
27	7700	7761	7823	7885	7947	8008	8070	8132	8194	8256		
28	8318	8379	8441	8503	8565	8626	8688	8750	8812	8874		
29	8935	8997	9059	9121	9183	9244	9306	9368	9430	9491		
7030	9553	9615	9677	9739	9800	9862	9924	9986	0047	0109		
31	847.0171	0233	0294	0356	0418	0480	0542	0603	0665	0727		
32	0789	0850	0912	0974	1036	1097	1159	1221	1283	1344		
33	1406	1468	1530	1591	1653	1715	1777	1838	1900	1962	61.7	
34	2024	2085	2147	2209	2271	2332	2394	2456	2517	2579		
35	2641	2703	2764	2826	2888	2950	3011	3073	3135	3197		
36	3258	3320	3382	3443	3505	3567	3629	3690	3752	3814		
37	3876	3937	3999	4061	4122	4184	4246	4307	4369	4431		
38	4493	4554	4616	4678	4739	4801	4863	4925	4986	5048		
39	5110	5171	5233	5295	5356	5418	5480	5541	5603	5665		
7040	5727	5788	5850	5912	5973	6035	6097	6158	6220	6282		
41	6343	6405	6467	6528	6590	6652	6713	6775	6837	6899		
42	6960	7022	7084	7145	7207	7269	7330	7392	7454	7515		
43	7577	7638	7700	7762	7823	7885	7947	8008	8070	8132		
44	8193	8255	8317	8378	8440	8502	8563	8625	8687	8748		
45	8810	8872	8933	8995	9057	9118	9180	9241	9303	9365	61.6	
46	9426	9488	9550	9611	9673	9735	9796	9858	9919	9981		
47	848.0043	0104	0166	0228	0289	0351	0412	0474	0536	0597		
48	0659	0721	0782	0844	0905	0967	1029	1090	1152	1213		
49	1275	1337	1398	1460	1521	1583	1645	1706	1768	1830		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 70500. L. 848

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7050	848	1891	1953	2014	2076	2138	2199	2261	2322	2384	2446	
51	2507	2569	2630	2692	2754	2815	2877	2938	3000	3061		
52	3123	3185	3246	3308	3369	3431	3493	3554	3616	3677		
53	3739	3800	3862	3924	3985	4047	4108	4170	4231	4293		
54	4355	4416	4478	4539	4601	4662	4724	4786	4847	4909		
55	4970	5032	5093	5155	5216	5278	5340	5401	5463	5524		
56	5586	5647	5709	5770	5832	5893	5955	6017	6078	6140	61.5	
57	6201	6263	6324	6386	6447	6509	6570	6632	6693	6755		
58	6817	6878	6940	7001	7063	7124	7186	7247	7309	7370		
59	7432	7493	7555	7616	7678	7739	7801	7862	7924	7985		
7050	8047	8109	8170	8232	8293	8355	8416	8478	8539	8601		61.5
61	8662	8724	8785	8847	8908	8970	9031	9093	9154	9216		1-6
62	9277	9339	9400	9462	9523	9585	9646	9708	9769	9831		2-12
63	9892	9954	0015	0076	0138	0199	0261	0322	0384	0445		3-18
64	849.	0507	0568	0630	0691	0753	0814	0876	0937	0999		4-25
65	1122	1183	1245	1306	1368	1429	1490	1552	1613	1675		5-31
66	1736	1798	1859	1921	1982	2044	2105	2167	2228	2289		6-37
67	2351	2412	2474	2535	2597	2658	2720	2781	2843	2904	61.4	7-43
68	2965	3027	3088	3150	3211	3273	3334	3396	3457	3518		8-49
69	3580	3641	3703	3764	3826	3887	3948	4010	4071	4133		9-55
7070	4194	4256	4317	4378	4440	4501	4563	4624	4686	4747		
71	4808	4870	4931	4993	5054	5115	5177	5238	5300	5361		
72	5423	5484	5545	5607	5668	5730	5791	5852	5914	5975		
73	6037	6098	6159	6221	6282	6344	6405	6466	6528	6589		
74	6651	6712	6773	6835	6896	6958	7019	7080	7142	7203		
75	7264	7326	7387	7449	7510	7571	7633	7694	7755	7817		
76	7878	7940	8001	8062	8124	8185	8246	8308	8369	8431		
77	8492	8553	8615	8676	8737	8799	8860	8922	8983	9044		
78	9105	9167	9228	9290	9351	9412	9474	9535	9596	9658		
79	9719	9780	9842	9903	9965	0026	0087	0149	0210	0271	61.3	
7080	850.	0333	0394	0455	0517	0578	0639	0701	0762	0823	0885	
81	0946	1007	1069	1130	1191	1253	1314	1375	1437	1498		
82	1559	1621	1682	1743	1805	1866	1927	1988	2050	2111		
83	2172	2234	2295	2356	2418	2479	2540	2602	2663	2724		
84	2786	2847	2908	2969	3031	3092	3153	3215	3276	3337		
85	3399	3460	3521	3582	3644	3705	3766	3828	3889	3950		
86	4011	4073	4134	4195	4257	4318	4379	4440	4502	4563		
87	4624	4686	4747	4808	4869	4931	4992	5053	5115	5176		
88	5237	5298	5360	5421	5482	5543	5605	5666	5727	5788		
89	5850	5911	5972	6034	6095	6156	6217	6279	6340	6401		
7090	6462	6524	6585	6646	6707	6769	6830	6891	6952	7014		61
91	7075	7136	7197	7259	7320	7381	7442	7504	7565	7626	61.2	1-6
92	7687	7749	7810	7871	7932	7993	8055	8116	8177	8238		2-12
93	8300	8361	8422	8483	8545	8606	8667	8728	8789	8851		3-18
94	8912	8973	9034	9095	9157	9218	9279	9340	9402	9463		4-24
95	9524	9585	9646	9708	9769	9830	9891	9952	0014	0075		5-30
96	851.	0136	0197	0258	0320	0381	0442	0503	0564	0626	0687	6-37
97	0748	0809	0870	0932	0993	1054	1115	1176	1238	1299		7-43
98	1360	1421	1482	1544	1605	1666	1727	1788	1849	1911		8-49
99	1972	2033	2094	2155	2216	2278	2339	2400	2461	2522		9-55
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7100	851.2583	2645	2706	2767	2828	2889	2950	3012	3073	3134		61
01	3195	3256	3317	3379	3440	3501	3562	3623	3684	3746		1-6
02	3807	3868	3929	3990	4051	4112	4174	4235	4296	4357	61.1	2-12
03	4418	4479	4540	4602	4663	4724	4785	4846	4907	4968		3-18
04	5030	5091	5152	5213	5274	5335	5396	5457	5519	5580		4-24
05	5641	5702	5763	5824	5885	5946	6008	6069	6130	6191		5-30
06	6252	6313	6374	6435	6496	6558	6619	6680	6741	6802		6-37
07	6863	6924	6985	7046	7108	7169	7230	7291	7352	7413		7-43
08	7474	7535	7596	7657	7719	7780	7841	7902	7963	8024		8-49
09	8085	8146	8207	8268	8329	8391	8452	8513	8574	8635		9-55
7110	8696	8757	8818	8879	8940	9001	9062	9124	9185	9246		
11	9307	9368	9429	9490	9551	9612	9673	9734	9795	9856		
12	9917	9979	0040	0101	0162	0223	0284	0345	0406	0467		
13	852.0528	0589	0650	0711	0772	0833	0894	0955	1017	1078		
14	1139	1200	1261	1322	1383	1444	1505	1566	1627	1688	61	
15	1749	1810	1871	1932	1993	2054	2115	2176	2237	2298		
16	2359	2420	2481	2542	2604	2665	2726	2787	2848	2909		
17	2970	3031	3092	3153	3214	3275	3336	3397	3458	3519		
18	3580	3641	3702	3763	3824	3885	3946	4007	4068	4129		
19	4190	4251	4312	4373	4434	4495	4556	4617	4678	4739		
7120	4800	4861	4922	4983	5044	5105	5166	5227	5288	5349		
21	5410	5471	5532	5593	5654	5715	5776	5837	5898	5959		
22	6020	6081	6142	6203	6264	6325	6386	6447	6508	6568		
23	6629	6690	6751	6812	6873	6934	6995	7056	7117	7178		
24	7239	7300	7361	7422	7483	7544	7605	7666	7727	7788		
25	7849	7910	7971	8032	8092	8153	8214	8275	8336	8397	60.9	
26	8458	8519	8580	8641	8702	8763	8824	8885	8946	9007		
27	9068	9129	9189	9250	9311	9372	9433	9494	9555	9616		
28	9677	9738	9799	9860	9921	9982	0042	0103	0164	0225		
29	853.0286	0347	0408	0469	0530	0591	0652	0713	0773	0834		
7130	0895	0956	1017	1078	1139	1200	1261	1322	1383	1443		
31	1504	1565	1626	1687	1748	1809	1870	1931	1992	2052		
32	2113	2174	2235	2296	2357	2418	2479	2540	2600	2661		
33	2722	2783	2844	2905	2966	3027	3088	3148	3209	3270		
34	3331	3392	3453	3514	3575	3635	3696	3757	3818	3879		
35	3940	4001	4062	4122	4183	4244	4305	4366	4427	4488		
36	4548	4609	4670	4731	4792	4853	4914	4974	5035	5096		
37	5157	5218	5279	5340	5400	5461	5522	5583	5644	5705	60.8	
38	5765	5826	5887	5948	6009	6070	6130	6191	6252	6313		
39	6374	6435	6495	6556	6617	6678	6739	6800	6860	6921		
7140	6982	7043	7104	7165	7225	7286	7347	7408	7469	7530		
41	7590	7651	7712	7773	7834	7894	7955	8016	8077	8138		
42	8198	8259	8320	8381	8442	8502	8563	8624	8685	8746		
43	8807	8867	8928	8989	9050	9110	9171	9232	9293	9354		
44	9414	9475	9536	9597	9658	9718	9779	9840	9901	9962		
45	854.0022	0083	0144	0205	0265	0326	0387	0448	0509	0569		
46	0630	0691	0752	0812	0873	0934	0995	1056	1116	1177		
47	1238	1299	1359	1420	1481	1542	1602	1663	1724	1785		
48	1845	1906	1967	2028	2088	2149	2210	2271	2331	2392		
49	2453	2514	2574	2635	2695	2757	2817	2878	2939	3000	60.7	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 71500. L. 854

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7150	854	3060	3121	3182	3243	3303	3364	3425	3486	3547	3607	
51		3668	3729	3789	3850	3911	3971	4032	4093	4154	4214	
52		4275	4336	4397	4457	4518	4579	4639	4700	4761	4822	
53		4882	4943	5004	5064	5125	5186	5247	5307	5368	5429	
54		5489	5550	5611	5671	5732	5793	5854	5914	5975	6036	
55		6096	6157	6218	6278	6339	6400	6461	6521	6582	6643	
56		6703	6764	6825	6885	6946	7007	7067	7128	7189	7249	
57		7310	7371	7432	7492	7553	7614	7674	7735	7796	7856	
58		7917	7978	8038	8099	8160	8220	8281	8342	8402	8463	
59		8524	8584	8645	8706	8766	8827	8888	8948	9009	9070	
7160		9130	9191	9252	9312	9373	9433	9494	9555	9615	9676	
61		9737	9797	9858	9919	9979	0040	0101	0161	0222	0283	60.6
62	855	0343	0404	0464	0525	0586	0646	0707	0768	0828	0889	
63		0950	1010	1071	1131	1192	1253	1313	1374	1435	1495	
64		1556	1616	1677	1738	1798	1859	1919	1980	2041	2101	
65		2162	2223	2283	2344	2404	2465	2526	2586	2647	2707	
66		2768	2829	2889	2950	3010	3071	3132	3192	3253	3313	
67		3374	3435	3495	3556	3616	3677	3738	3798	3859	3919	
68		3980	4041	4101	4162	4222	4283	4343	4404	4465	4525	
69		4586	4646	4707	4768	4828	4889	4949	5010	5070	5131	
7170		5192	5252	5313	5373	5434	5494	5555	5616	5676	5737	
71		5797	5858	5918	5979	6039	6100	6161	6221	6282	6342	
72		6403	6463	6524	6584	6645	6706	6766	6827	6887	6948	
73		7008	7069	7129	7190	7250	7311	7372	7432	7493	7553	60.5
74		7614	7674	7735	7795	7856	7916	7977	8037	8098	8159	
75		8219	8280	8340	8401	8461	8522	8582	8643	8703	8764	
76		8824	8885	8945	9006	9066	9127	9187	9248	9308	9369	
77		9429	9490	9550	9611	9672	9732	9793	9853	9914	9974	
78	856	0035	0095	0156	0216	0277	0337	0398	0458	0519	0579	
79		0640	0700	0761	0821	0882	0942	1002	1063	1123	1184	
7180		1244	1305	1365	1426	1486	1547	1607	1668	1728	1789	60.5
81		1849	1910	1970	2031	2091	2152	2212	2273	2333	2394	1-6
82		2454	2514	2575	2635	2696	2756	2817	2877	2938	2998	2-12
83		3059	3119	3180	3240	3301	3361	3421	3482	3542	3603	3-18
84		3663	3724	3784	3845	3905	3965	4026	4086	4147	4207	60.4 4-24
85		4268	4328	4389	4449	4509	4570	4630	4691	4751	4812	5-30
86		4872	4933	4993	5053	5114	5174	5235	5295	5356	5416	6-36
87		5476	5537	5597	5658	5718	5779	5839	5899	5960	6020	7-42
88		6081	6141	6202	6262	6322	6383	6443	6504	6564	6624	8-48
89		6685	6745	6806	6866	6926	6987	7047	7108	7168	7229	9-54
7190		7289	7349	7410	7470	7531	7591	7651	7712	7772	7832	
91		7893	7953	8014	8074	8134	8195	8255	8316	8376	8436	
92		8497	8557	8618	8678	8738	8799	8859	8919	8980	9040	
93		9101	9161	9221	9282	9342	9402	9463	9523	9584	9644	
94		9704	9765	9825	9885	9946	0006	0067	0127	0187	0248	
95	857	0308	0368	0429	0489	0549	0610	0670	0730	0791	0851	
96		0912	0972	1032	1093	1153	1213	1274	1334	1394	1455	60.3
97		1515	1575	1636	1696	1756	1817	1877	1937	1998	2058	
98		2118	2179	2239	2299	2360	2420	2480	2541	2601	2661	
99		2722	2782	2842	2903	2963	3023	3084	3144	3204	3265	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 72000. L. 857.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7200	857.3325	3385	3446	3506	3566	3627	3687	3747	3807	3868		60
01	3928	3988	4049	4109	4169	4230	4290	4350	4411	4471		1-6
02	4531	4591	4652	4712	4772	4833	4893	4953	5014	5074		2-12
03	5134	5194	5255	5315	5375	5436	5496	5556	5616	5677		3-18
04	5737	5797	5858	5918	5978	6038	6099	6159	6219	6280		4-24
05	6340	6400	6460	6521	6581	6641	6701	6762	6822	6882		5-30
06	6943	7003	7063	7123	7184	7244	7304	7364	7425	7485		6-36
07	7545	7605	7666	7726	7786	7847	7907	7967	8027	8088		7-42
08	8148	8208	8268	8329	8389	8449	8509	8570	8630	8690	60.28	8-48
09	8750	8810	8871	8931	8991	9051	9112	9172	9232	9292		9-54
7210	9353	9413	9473	9533	9594	9654	9714	9774	9835	9895		
11	9955	0015	0075	0136	0196	0256	0316	0377	0437	0497		
12	858.0557	0617	0678	0738	0798	0858	0918	0979	1039	1099		
13	1159	1220	1280	1340	1400	1460	1521	1581	1641	1701		
14	1761	1822	1882	1942	2002	2062	2123	2183	2243	2303		
15	2363	2424	2484	2544	2604	2664	2724	2785	2845	2905		
16	2965	3025	3086	3146	3206	3266	3326	3387	3447	3507		
17	3567	3627	3687	3748	3808	3868	3928	3988	4048	4109		
18	4169	4229	4289	4349	4409	4470	4530	4590	4650	4710		
19	4770	4831	4891	4951	5011	5071	5131	5192	5252	5312		
7220	5372	5432	5492	5552	5613	5673	5733	5793	5853	5913	60.1	
21	5973	6034	6094	6154	6214	6274	6334	6394	6455	6515		
22	6575	6635	6694	6755	6815	6876	6936	6996	7056	7116		
23	7176	7236	7296	7357	7417	7477	7537	7597	7657	7717		
24	7777	7837	7898	7958	8018	8078	8138	8198	8258	8318		
25	8379	8439	8499	8559	8619	8679	8739	8799	8859	8919		
26	8980	9040	9100	9160	9220	9280	9340	9400	9460	9520		
27	9581	9641	9701	9761	9821	9881	9941	0001	0061	0121		
28	859.0181	0242	0302	0362	0422	0482	0542	0602	0662	0722		
29	0782	0842	0902	0962	1023	1083	1143	1203	1263	1323		
7230	1383	1443	1503	1563	1623	1683	1743	1803	1863	1924		
31	1984	2044	2104	2164	2224	2284	2344	2404	2464	2524		
32	2584	2644	2704	2764	2824	2884	2944	3005	3065	3125	60	
33	3185	3245	3305	3365	3425	3485	3545	3605	3665	3725		
34	3785	3845	3905	3965	4025	4085	4145	4205	4265	4325		
35	4385	4445	4505	4565	4625	4685	4745	4806	4866	4926		
36	4986	5046	5106	5166	5226	5286	5346	5406	5466	5526		
37	5586	5646	5706	5766	5826	5886	5946	6006	6066	6126		
38	6186	6246	6306	6366	6426	6486	6546	6606	6666	6726		
39	6786	6846	6906	6966	7026	7086	7146	7206	7266	7326		
7240	7386	7446	7506	7566	7626	7686	7746	7806	7866	7926		
41	7986	8046	8106	8166	8226	8286	8346	8406	8466	8526		
42	8586	8646	8706	8766	8826	8886	8946	9006	9066	9126		
43	9186	9246	9306	9366	9426	9486	9546	9606	9666	9726		
44	9786	9846	9906	9966	0026	0086	0146	0206	0266	0326	59.9	
45	860.0384	0444	0504	0564	0624	0684	0744	0804	0863	0923		
46	0983	1043	1103	1163	1223	1283	1343	1403	1463	1523		
47	1583	1643	1702	1762	1822	1882	1942	2002	2062	2122		
48	2182	2242	2302	2362	2422	2481	2541	2601	2661	2721		
49	2781	2841	2901	2961	3021	3081	3140	3200	3260	3320		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 72500. L. 860

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7250	860	3380	3440	3500	3560	3620	3680	3739	3799	3859	3919	
51		3979	4039	4099	4159	4219	4279	4338	4398	4458	4518	
52		4578	4638	4698	4758	4817	4877	4937	4997	5057	5117	
53		5177	5237	5297	5356	5416	5476	5536	5596	5656	5716	
54		5776	5835	5895	5955	6015	6075	6135	6195	6254	6314	
55		6374	6434	6494	6554	6614	6673	6733	6793	6853	6913	
56		6973	7033	7092	7152	7212	7272	7332	7392	7452	7511	59.8
57		7571	7631	7691	7751	7811	7870	7930	7990	8050	8110	
58		8170	8229	8289	8349	8409	8459	8529	8588	8648	8708	
59		8768	8828	8888	8947	9007	9067	9127	9187	9247	9306	
7260		9366	9426	9486	9546	9605	9665	9725	9785	9845	9905	
61		9964	0024	0084	0144	0204	0263	0323	0383	0443	0503	
62	861	0562	0622	0682	0742	0802	0861	0921	0981	1041	1101	
63		1160	1220	1280	1340	1400	1459	1519	1579	1639	1699	
64		1758	1818	1878	1938	1997	2057	2117	2177	2237	2296	
65		2356	2416	2476	2536	2595	2655	2715	2775	2834	2894	
66		2954	3014	3073	3133	3193	3253	3313	3372	3432	3492	
67		3552	3611	3671	3731	3791	3850	3910	3970	4030	4089	
68		4149	4209	4269	4328	4388	4448	4508	4567	4627	4687	
69		4747	4806	4866	4926	4986	5045	5105	5165	5225	5284	59.7
7270		5344	5404	5464	5523	5583	5643	5703	5762	5822	5882	
71		5941	6001	6061	6121	6180	6240	6300	6359	6419	6479	
72		6539	6599	6658	6718	6778	6837	6897	6957	7016	7076	
73		7136	7196	7255	7315	7375	7434	7494	7554	7614	7673	
74		7733	7793	7852	7912	7972	8031	8091	8151	8211	8270	
75		8330	8390	8449	8509	8569	8628	8688	8748	8808	8867	
76		8927	8987	9046	9106	9166	9225	9285	9345	9404	9464	
77		9524	9583	9643	9703	9762	9822	9882	9941	0001	0061	
78	862	0121	0180	0240	0300	0359	0419	0479	0538	0598	0658	
79		0717	0777	0837	0896	0956	1016	1075	1135	1194	1254	
7280		1314	1373	1433	1493	1552	1612	1672	1731	1791	1851	
81		1910	1970	2031	2089	2149	2209	2268	2328	2387	2447	59.6
82		2507	2566	2626	2686	2745	2805	2865	2924	2984	3043	
83		3103	3163	3222	3282	3342	3401	3461	3520	3580	3640	
84		3699	3759	3819	3878	3938	3997	4057	4117	4176	4236	
85		4306	4355	4415	4474	4534	4594	4653	4713	4772	4832	
86		4892	4951	5011	5070	5130	5190	5249	5309	5368	5428	
87		5488	5547	5607	5666	5726	5786	5845	5905	5964	6024	
88		6084	6143	6203	6262	6322	6382	6441	6501	6560	6620	
89		6680	6739	6799	6858	6918	6977	7037	7097	7156	7216	
7290		7275	7335	7394	7454	7514	7573	7633	7692	7752	7811	59.5
91		7871	7930	7990	8050	8109	8169	8228	8288	8347	8407	1-6
92		8467	8526	8586	8645	8705	8764	8824	8883	8943	9003	2-12
93		9062	9122	9181	9241	9300	9360	9419	9479	9539	9598	3-18
94		9658	9717	9777	9836	9896	9955	0015	0074	0134	0193	4-24
95	863	0253	0312	0372	0432	0491	0551	0610	0670	0729	0789	5-30
96		0848	0908	0967	1027	1086	1146	1205	1265	1324	1384	6-36
97		1443	1503	1562	1622	1682	1741	1801	1860	1920	1979	7-42
98		2039	2098	2158	2217	2277	2336	2396	2455	2515	2574	8-48
99		2634	2693	2753	2812	2872	2931	2991	3050	3110	3169	9-54
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7300	863.3229	3288	3348	3407	3467	3526	3586	3645	3705	3764		59.5
01	3823	3883	3942	4002	4061	4121	4180	4240	4299	4359		1-6
02	4418	4478	4537	4597	4656	4716	4775	4835	4894	4954		2-12
03	5013	5072	5132	5191	5251	5310	5370	5429	5489	5548		3-18
04	5608	5667	5727	5786	5845	5905	5964	6024	6083	6143	59.4	4-24
05	6202	6262	6321	6381	6440	6499	6559	6618	6678	6737		5-30
06	6797	6856	6916	6975	7034	7094	7153	7213	7272	7332		6-36
07	7391	7451	7510	7569	7629	7688	7748	7807	7867	7926		7-42
08	7985	8045	8104	8164	8223	8283	8342	8401	8461	8520		8-48
09	8580	8639	8698	8758	8817	8877	8936	8996	9055	9114		9-54
7310	9174	9233	9293	9352	9411	9471	9530	9590	9649	9708		
11	9768	9827	9887	9946	0005	0065	0124	0184	0243	0302		
12	864.0362	0421	0481	0540	0599	0659	0718	0778	0837	0896		
13	0956	1015	1075	1134	1193	1253	1312	1371	1431	1490		
14	1550	1609	1668	1728	1787	1845	1906	1965	2025	2084		
15	2143	2203	2262	2321	2381	2440	2500	2559	2618	2678		
16	2737	2796	2856	2915	2974	3034	3093	3152	3212	3271		
17	3331	3390	3449	3509	3568	3627	3687	3746	3805	3865		
18	3924	3983	4043	4102	4161	4221	4280	4339	4399	4458	59.3	
19	4517	4577	4636	4695	4755	4814	4873	4933	4992	5051		
7320	5111	5170	5229	5289	5348	5407	5467	5526	5585	5645		
21	5704	5763	5823	5882	5941	6001	6060	6119	6179	6238		
22	6297	6357	6416	6475	6534	6594	6653	6712	6772	6831		
23	6892	6950	7009	7068	7128	7187	7246	7305	7365	7424		
24	7483	7543	7602	7661	7721	7780	7839	7898	7958	8017		
25	8076	8136	8195	8254	8313	8373	8432	8491	8551	8610		
26	8669	8728	8788	8847	8906	8966	9025	9084	9143	9203		
27	9262	9321	9380	9440	9499	9558	9618	9677	9736	9795		
28	9855	9914	9973	0032	0092	0151	0210	0269	0329	0388		
29	865.0447	0506	0566	0625	0684	0743	0803	0862	0921	0980		
7330	1040	1099	1158	1217	1277	1336	1395	1454	1514	1573	59.2	
31	1632	1691	1751	1810	1869	1928	1988	2047	2106	2165		
32	2225	2284	2343	2402	2461	2521	2580	2639	2698	2758		
33	2817	2876	2935	2995	3054	3113	3172	3231	3291	3350		
34	3409	3468	3527	3587	3646	3705	3764	3824	3883	3942		
35	4001	4060	4120	4179	4238	4297	4356	4416	4475	4534		
36	4593	4652	4712	4771	4830	4889	4948	5008	5067	5126		
37	5185	5244	5304	5363	5422	5481	5540	5600	5659	5718		
38	5777	5836	5895	5955	6014	6073	6132	6191	6251	6310		
39	6369	6428	6487	6546	6606	6665	6724	6783	6842	6901		
7340	6961	7020	7079	7138	7197	7256	7316	7375	7434	7493		
41	7552	7611	7671	7730	7789	7848	7907	7966	8025	8084		
42	8144	8203	8262	8321	8380	8440	8499	8558	8617	8676		
43	8735	8794	8853	8913	8972	9031	9090	9149	9208	9268	59.1	
44	9327	9386	9445	9504	9563	9622	9681	9741	9800	9859		
45	9918	9977	0036	0095	0155	0214	0273	0332	0391	0450		
46	866.0509	0568	0627	0687	0746	0805	0864	0923	0982	1041		
47	1105	1160	1219	1278	1337	1396	1455	1514	1573	1632		
48	1691	1751	1810	1869	1928	1987	2046	2105	2164	2223		
49	2282	2342	2401	2460	2519	2578	2637	2696	2755	2814		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 73500. L. 866

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7350	866.2873	2932	2992	3051	3110	3169	3228	3287	3346	3405		
51	3464	3523	3582	3641	3701	3760	3819	3878	3937	3996		
52	4055	4114	4173	4232	4291	4350	4409	4468	4528	4587		
53	4646	4705	4764	4823	4882	4941	5000	5059	5118	5177		
54	5236	5295	5354	5413	5472	5532	5591	5650	5709	5768	59	
55	5827	5886	5945	6004	6063	6122	6181	6240	6299	6358		
56	6417	6476	6535	6594	6653	6712	6771	6830	6889	6949		
57	7008	7067	7126	7185	7244	7303	7362	7421	7480	7539		
58	7598	7657	7716	7775	7834	7893	7952	8011	8070	8129		
59	8188	8247	8306	8365	8424	8483	8542	8601	8660	8719		
7360	8778	8837	8896	8955	9014	9073	9132	9191	9250	9309		59
61	9368	9427	9486	9545	9604	9663	9722	9781	9840	9899	1	-6
62	9958	0017	0076	0135	0194	0253	0312	0371	0430	0489	2	-12
63	867.0548	0607	0666	0725	0784	0843	0902	0961	1020	1079	3	-18
64	1138	1197	1256	1315	1374	1433	1492	1551	1610	1669	4	-24
65	1728	1786	1845	1904	1963	2022	2081	2140	2199	2258	5	-29
66	2317	2376	2435	2494	2553	2612	2671	2730	2789	2848	6	-35
67	2907	2966	3025	3084	3142	3201	3260	3319	3378	3437	8-9	7-41
68	3496	3555	3614	3673	3732	3791	3850	3909	3968	4027	8	-47
69	4086	4144	4203	4262	4321	4380	4439	4498	4557	4616	9	-53
7370	4675	4734	4793	4852	4911	4970	5028	5087	5146	5205		
71	5264	5323	5382	5441	5500	5559	5618	5677	5735	5794		
72	5853	5912	5971	6030	6089	6148	6207	6266	6325	6383		
73	6442	6501	6560	6619	6678	6737	6796	6855	6914	6972		
74	7031	7090	7149	7208	7267	7326	7385	7444	7502	7561		
75	7620	7679	7738	7797	7856	7915	7974	8032	8091	8150		
76	8209	8268	8327	8386	8445	8503	8562	8621	8680	8739		
77	8798	8857	8916	8974	9033	9092	9151	9210	9269	9328		
78	9387	9445	9504	9563	9622	9681	9740	9799	9857	9916		
79	9975	0034	0093	0152	0211	0269	0328	0387	0446	0505		
7380	868.0564	0622	0681	0740	0799	0858	0917	0976	1034	1093	58.8	
81	1152	1211	1270	1329	1387	1446	1505	1564	1623	1682		
82	1740	1799	1858	1917	1976	2035	2093	2152	2211	2270		
83	2329	2388	2446	2505	2564	2623	2682	2740	2799	2858		
84	2917	2976	3035	3093	3152	3211	3270	3329	3387	3446		
85	3505	3564	3623	3681	3740	3799	3858	3917	3975	4034		
86	4093	4152	4211	4269	4328	4387	4446	4505	4563	4622		
87	4681	4740	4799	4857	4916	4975	5034	5093	5151	5210		
88	5269	5328	5386	5445	5504	5563	5622	5680	5739	5798		
89	5857	5915	5974	6033	6092	6151	6209	6268	6327	6386		
7390	6444	6503	6562	6621	6679	6738	6797	6856	6915	6973		
91	7032	7091	7150	7208	7267	7326	7385	7443	7502	7561		
92	7620	7678	7737	7796	7855	7913	7972	8031	8090	8148	58.7	
93	8207	8266	8325	8383	8442	8501	8560	8618	8677	8736		
94	8794	8853	8912	8971	9029	9088	9147	9206	9264	9323		
95	9382	9441	9499	9558	9617	9675	9734	9793	9852	9910		
96	9969	0028	0086	0145	0204	0263	0321	0380	0439	0497		
97	869.0566	0615	0674	0732	0791	0850	0908	0967	1026	1085		
98	1143	1202	1261	1319	1378	1437	1495	1554	1613	1672		
99	1730	1789	1848	1906	1965	2024	2082	2141	2200	2259		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 74000. L. 869.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7400	869.2317	2376	2435	2493	2552	2611	2669	2728	2787	2845		
01	2904	2963	3021	3080	3139	3197	3256	3315	3373	3432		
02	3491	3549	3608	3667	3725	3784	3843	3901	3960	4019		
03	4077	4136	4195	4253	4312	4371	4429	4488	4547	4605		
04	4664	4723	4781	4840	4899	4957	5015	5075	5133	5192		
05	5251	5309	5368	5427	5485	5544	5603	5661	5720	5778	58.6	
06	5837	5896	5954	6013	6072	6130	6189	6248	6306	6365		
07	6423	6482	6541	6599	6658	6717	6775	6834	6892	6951		
08	7010	7068	7127	7186	7244	7303	7361	7420	7479	7537		
09	7596	7655	7713	7772	7830	7889	7948	8006	8065	8123		
7410	8182	8241	8299	8358	8417	8475	8534	8592	8651	8710		
11	8768	8827	8885	8944	9003	9061	9120	9178	9237	9296		
12	9354	9413	9471	9530	9588	9647	9706	9764	9823	9881		
13	9940	9999	0057	0116	0174	0233	0291	0350	0409	0467		
14	870.0526	0584	0643	0702	0760	0819	0877	0936	0994	1053		
15	1112	1170	1229	1287	1346	1404	1463	1522	1580	1639		
16	1697	1756	1814	1873	1931	1990	2049	2107	2166	2224		
17	2283	2341	2400	2458	2517	2576	2634	2693	2751	2810		
18	2868	2927	2985	3044	3102	3161	3220	3278	3337	3395	58.5	
19	3454	3512	3571	3629	3688	3746	3805	3863	3922	3981		
7420	4039	4098	4156	4215	4273	4332	4390	4449	4507	4566	58.4	
21	4624	4683	4741	4800	4858	4917	4975	5034	5092	5151	1-6	
22	5210	5268	5327	5385	5444	5502	5561	5619	5678	5736	2-12	
23	5794	5853	5912	5970	6029	6087	6146	6204	6263	6321	3-18	
24	6380	6438	6497	6555	6614	6672	6731	6789	6848	6906	4-23	
25	6965	7023	7082	7140	7199	7257	7316	7374	7433	7491	5-29	
26	7549	7608	7666	7725	7783	7842	7900	7959	8017	8076	6-35	
27	8134	8193	8251	8310	8368	8427	8485	8544	8602	8660	7-41	
28	8719	8777	8836	8894	8953	9011	9070	9128	9187	9245	8-47	
29	9304	9362	9421	9479	9537	9596	9654	9713	9771	9830	9-53	
7430	9888	9947	0005	0063	0122	0180	0239	0297	0356	0414	58.4	
31	871.0473	0531	0589	0648	0706	0765	0823	0882	0940	0999		
32	1057	1115	1174	1232	1291	1349	1408	1466	1524	1583		
33	1641	1700	1758	1817	1875	1933	1992	2050	2109	2167		
34	2226	2284	2342	2401	2459	2518	2576	2634	2693	2751		
35	2810	2868	2927	2985	3043	3102	3160	3219	3277	3335		
36	3394	3452	3511	3569	3627	3686	3744	3803	3861	3919		
37	3978	4036	4095	4153	4211	4270	4328	4387	4445	4503		
38	4552	4620	4679	4737	4795	4854	4912	4970	5029	5087		
39	5146	5204	5262	5321	5379	5437	5496	5554	5613	5671		
7440	5729	5788	5846	5904	5963	6021	6080	6138	6196	6255		
41	6313	6371	6430	6488	6546	6605	6663	6722	6780	6838		
42	6897	6955	7013	7072	7130	7188	7247	7305	7363	7422		
43	7480	7539	7597	7655	7714	7772	7830	7889	7947	8005	58.3	
44	8064	8122	8180	8239	8297	8355	8414	8472	8530	8589		
45	8647	8705	8764	8822	8880	8939	8997	9055	9114	9172		
46	9230	9289	9347	9405	9464	9522	9580	9639	9697	9755		
47	9814	9872	9930	9988	0047	0105	0163	0222	0280	0338		
48	872.0397	0455	0513	0572	0630	0688	0747	0805	0863	0921		
49	0980	1038	1096	1155	1213	1271	1330	1388	1446	1504		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 74500. L. 872

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7450	872.1563	1621	1679	1738	1796	1854	1912	1971	2029	2087		
51	2146	2204	2262	2320	2379	2437	2495	2554	2612	2670		
52	2728	2787	2845	2903	2962	3020	3078	3136	3195	3253		
53	3311	3369	3428	3486	3544	3603	3661	3719	3777	3836		
54	3894	3952	4010	4069	4127	4185	4243	4302	4360	4418		
55	4476	4535	4593	4651	4709	4768	4826	4884	4942	5001		
56	5059	5117	5175	5234	5292	5350	5408	5467	5525	5583	58.2	
57	5641	5700	5758	5816	5874	5933	5991	6049	6107	6166		
58	6224	6282	6340	6398	6457	6515	6573	6631	6690	6748		
59	6806	6864	6923	6981	7039	7097	7155	7214	7272	7330		
7460	7388	7446	7505	7563	7621	7679	7738	7796	7854	7912		
61	7970	8029	8087	8145	8203	8261	8320	8378	8436	8494		
62	8552	8611	8669	8727	8785	8843	8902	8960	9018	9076		
63	9134	9193	9251	9309	9367	9425	9484	9542	9600	9658		
64	9716	9774	9833	9891	9949	0007	0065	0124	0182	0240		
65	873.0298	0356	0414	0473	0531	0589	0647	0705	0764	0822		
66	0880	0938	0996	1054	1113	1171	1229	1287	1345	1403		
67	1462	1520	1578	1636	1694	1752	1810	1869	1927	1985		
68	2043	2101	2159	2218	2276	2334	2392	2450	2508	2566		
69	2625	2683	2741	2799	2857	2915	2973	3032	3090	3148	58.1	
7470	3206	3264	3322	3380	3439	3497	3555	3613	3671	3729		
71	3787	3845	3904	3962	4020	4078	4136	4194	4252	4311		
72	4369	4427	4485	4543	4601	4659	4716	4775	4834	4892		
73	4950	5008	5066	5124	5182	5240	5298	5357	5415	5473		
74	5531	5589	5647	5705	5763	5821	5880	5938	5996	6054		
75	6112	6170	6228	6286	6344	6402	6461	6519	6577	6635		
76	6693	6751	6809	6867	6925	6983	7041	7100	7158	7216		
77	7274	7332	7390	7448	7506	7564	7622	7680	7738	7797		
78	7855	7913	7971	8029	8087	8145	8203	8261	8319	8377		
79	8435	8493	8551	8610	8668	8726	8784	8842	8900	8958		
7480	9016	9074	9132	9190	9248	9306	9364	9422	9480	9538		
81	9597	9655	9713	9771	9829	9887	9945	0003	0061	0119	58	
82	874.0177	0235	0293	0351	0409	0467	0525	0583	0641	0699		
83	0757	0815	0874	0932	0990	1048	1106	1164	1222	1280		
84	1338	1396	1454	1512	1570	1628	1686	1744	1802	1860		
85	1918	1976	2034	2092	2150	2208	2266	2324	2382	2440		
86	2498	2556	2614	2672	2730	2788	2846	2904	2962	3020		
87	3078	3136	3194	3252	3310	3368	3426	3484	3542	3600		
88	3658	3716	3774	3832	3890	3948	4006	4064	4122	4180		
89	4238	4296	4354	4412	4470	4528	4586	4644	4702	4760		
7490	4818	4876	4934	4992	5050	5108	5166	5224	5282	5340		
91	5398	5456	5514	5572	5630	5688	5746	5804	5862	5920		
92	5978	6036	6094	6152	6210	6268	6325	6383	6441	6499		
93	6557	6615	6673	6731	6789	6847	6905	6963	7021	7079		
94	7137	7195	7253	7311	7369	7427	7485	7543	7600	7658	57.9	
95	7716	7774	7832	7890	7948	8006	8064	8122	8180	8238		
96	8296	8354	8412	8470	8528	8585	8643	8701	8759	8817		
97	8875	8933	8991	9049	9107	9165	9223	9281	9339	9396		
98	9454	9512	9570	9628	9686	9744	9802	9860	9918	9976		
99	875.0034	0091	0149	0207	0265	0323	0381	0439	0497	0555		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 75000. L. 875.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7500	875.0613	0671	0728	0786	0844	0902	0960	1018	1076	1134		58
01	1192	1250	1307	1365	1423	1481	1539	1597	1655	1713		1-6
02	1771	1828	1886	1944	2002	2060	2118	2176	2234	2292		2-12
03	2349	2407	2465	2523	2581	2639	2697	2755	2813	2870		3-17
04	2928	2986	3044	3102	3160	3218	3275	3333	3391	3449		4-23
05	3507	3565	3623	3681	3738	3796	3854	3912	3970	4028		5-29
06	4086	4143	4201	4259	4317	4375	4433	4491	4548	4606		6-35
07	4664	4722	4780	4838	4896	4953	5011	5069	5127	5185	57-8	7-41
08	5243	5300	5358	5416	5474	5532	5590	5648	5705	5763		8-46
09	5821	5879	5937	5995	6052	6110	6168	6226	6284	6342		9-52
7510	6399	6457	6515	6573	6631	6689	6746	6804	6862	6920		
11	6978	7035	7093	7151	7209	7267	7325	7382	7440	7498		
12	7556	7614	7671	7729	7787	7845	7903	7960	8018	8076		
13	8134	8192	8249	8307	8365	8423	8481	8539	8596	8654		
14	8712	8770	8828	8885	8943	9001	9059	9116	9174	9232		
15	9290	9348	9405	9463	9521	9579	9637	9694	9752	9810		
16	9868	9925	9983	0041	0099	0157	0214	0272	0330	0388		
17	876.0446	0503	0561	0619	0677	0734	0792	0850	0908	0965		
18	1023	1081	1139	1197	1254	1312	1370	1428	1485	1543		
19	1601	1659	1716	1774	1832	1890	1947	2005	2063	2121		
7520	2178	2236	2294	2352	2409	2467	2525	2583	2640	2698	57-7	
21	2756	2814	2871	2929	2987	3045	3103	3160	3218	3276		
22	3333	3391	3449	3506	3564	3622	3680	3737	3795	3853		
23	3911	3968	4026	4084	4142	4199	4257	4315	4372	4430		
24	4488	4546	4603	4661	4719	4776	4834	4892	4950	5007		
25	5065	5123	5180	5238	5296	5354	5411	5469	5527	5584		
26	5642	5700	5758	5815	5873	5931	5988	6046	6104	6161		
27	6219	6277	6335	6392	6450	6508	6565	6623	6681	6738		
28	6796	6854	6911	6969	7027	7085	7142	7200	7258	7315		
29	7373	7431	7488	7546	7604	7661	7719	7777	7834	7892		
7530	7951	8007	8065	8123	8180	8238	8296	8353	8411	8469		
31	8526	8584	8642	8699	8757	8815	8872	8930	8988	9045		
32	9103	9161	9218	9276	9334	9391	9449	9507	9564	9622		
33	9680	9737	9795	9853	9910	9968	0026	0083	0141	0199	57-6	
34	877.0256	0314	0371	0429	0487	0544	0602	0660	0717	0775		
35	0833	0890	0948	1005	1063	1121	1178	1236	1294	1351		
36	1409	1467	1524	1582	1639	1697	1755	1812	1870	1928		
37	1985	2043	2100	2158	2216	2273	2331	2388	2446	2504		
38	2561	2619	2677	2734	2792	2849	2907	2965	3022	3080		
39	3137	3195	3253	3310	3368	3425	3483	3541	3598	3656		
7540	3713	3771	3829	3886	3944	4001	4059	4117	4174	4232		
41	4289	4347	4405	4462	4520	4577	4635	4693	4750	4808		
42	4865	4923	4980	5038	5096	5153	5211	5268	5326	5384		
43	5441	5499	5556	5614	5671	5729	5787	5844	5902	5959		
44	6017	6074	6132	6189	6247	6305	6362	6420	6477	6535		
45	6592	6650	6708	6765	6821	6880	6938	6995	7053	7110		
46	7168	7226	7283	7341	7398	7456	7513	7571	7628	7686		
47	7743	7801	7859	7916	7974	8031	8089	8146	8204	8261	57-5	
48	8319	8376	8434	8492	8549	8607	8664	8722	8779	8837		
49	8894	8952	9009	9067	9124	9182	9239	9297	9354	9412		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 75500. L. 877

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7550	877.9470	9527	9585	9642	9700	9757	9815	9872	9930	9987		57.5
51	878.0045	0102	0160	0217	0275	0332	0390	0447	0505	0562		1-6
52	0620	0677	0735	0792	0850	0907	0965	1022	1080	1137		2-11
53	1195	1252	1310	1367	1425	1482	1540	1597	1655	1712		3-17
54	1770	1827	1885	1942	2000	2057	2115	2172	2230	2287		4-23
55	2345	2402	2460	2517	2575	2632	2690	2747	2805	2862		5-29
56	2919	2977	3034	3092	3149	3207	3264	3322	3379	3437		6-34
57	3494	3552	3609	3667	3724	3782	3839	3896	3954	4011		7-40
58	4069	4126	4184	4241	4299	4356	4414	4471	4529	4586		8-46
59	4643	4701	4758	4816	4873	4931	4988	5046	5103	5161		9-52
7560	5218	5275	5333	5390	5448	5505	5563	5620	5678	5735	57.4	
61	5792	5850	5907	5965	6022	6080	6137	6194	6252	6309		
62	6367	6424	6482	6539	6596	6654	6711	6769	6826	6884		
63	6941	6998	7056	7113	7171	7228	7286	7343	7400	7458		
64	7515	7573	7630	7687	7745	7802	7860	7917	7975	8032		
65	8089	8147	8204	8262	8319	8376	8434	8491	8549	8606		
66	8663	8721	8778	8836	8893	8950	9008	9065	9123	9180		
67	9237	9295	9352	9410	9467	9524	9582	9639	9696	9754		
68	9811	9869	9926	9983	0041	0098	0156	0213	0270	0328		
69	879.0385	0442	0500	0557	0615	0672	0729	0787	0844	0901		
7570	0959	1016	1074	1131	1188	1246	1303	1360	1418	1475		
71	1532	1590	1647	1705	1762	1819	1877	1934	1991	2049		
72	2106	2163	2221	2278	2335	2393	2450	2508	2565	2622		
73	2680	2737	2794	2852	2909	2966	3024	3081	3138	3196	57.3	
74	3253	3310	3368	3425	3482	3540	3597	3654	3712	3769		
75	3826	3884	3941	3998	4056	4113	4170	4228	4285	4342		
76	4400	4457	4514	4572	4629	4686	4744	4801	4858	4916		
77	4973	5030	5088	5145	5202	5259	5317	5374	5431	5489		
78	5546	5603	5661	5718	5775	5833	5890	5947	6004	6062		
79	6119	6176	6234	6291	6348	6406	6463	6520	6577	6635		
7580	6692	6749	6807	6864	6921	6979	7036	7093	7150	7208		
81	7255	7312	7370	7427	7484	7541	7599	7656	7713	7771		
82	7838	7895	7952	8010	8067	8124	8181	8239	8296	8353		
83	8411	8468	8525	8582	8640	8697	8754	8811	8869	8926		
84	8983	9041	9098	9155	9212	9270	9327	9384	9441	9499		
85	9556	9613	9670	9728	9785	9842	9899	9957	0014	0071		
86	880.0128	0186	0243	0300	0357	0415	0472	0529	0586	0644	57.2	
87	0701	0758	0815	0873	0930	0987	1044	1102	1159	1216		
88	1273	1330	1388	1445	1502	1559	1617	1674	1731	1788		
89	1846	1903	1960	2017	2074	2132	2189	2246	2303	2361		
7590	2418	2475	2532	2589	2647	2704	2761	2818	2875	2933		57
91	2990	3047	3104	3162	3219	3276	3333	3390	3448	3505		1-6
92	3562	3619	3676	3734	3791	3848	3905	3962	4020	4077		2-11
93	4134	4191	4248	4306	4363	4420	4477	4534	4592	4649		3-17
94	4706	4763	4820	4877	4935	4992	5049	5106	5163	5221		4-22
95	5278	5335	5392	5449	5507	5564	5621	5678	5735	5792		5-28
96	5850	5907	5964	6021	6078	6135	6193	6250	6307	6364		6-34
97	6421	6478	6536	6593	6650	6707	6764	6821	6879	6936		7-40
98	6993	7050	7107	7164	7222	7279	7336	7393	7450	7507		8-46
99	7564	7622	7679	7736	7793	7850	7907	7964	8022	8079	57.1	9-51
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 76000. L. 880.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7600	880	8136	8193	8250	8307	8364	8422	8479	8536	8593	8650	57.1
01		8707	8764	8822	8879	8936	8993	9050	9107	9164	9222	
02		9279	9336	9393	9450	9507	9564	9621	9679	9736	9793	
03		9850	9907	9964	0021	0078	0136	0193	0250	0307	0364	
04	881	0421	0478	0535	0592	0650	0707	0764	0821	0878	0935	
05		0992	1049	1106	1163	1221	1278	1335	1392	1449	1506	
06		1563	1620	1677	1735	1792	1849	1906	1963	2020	2077	
07		2134	2191	2248	2305	2363	2420	2477	2534	2591	2648	
08		2705	2762	2819	2875	2933	2990	3048	3105	3162	3219	
09		3276	3333	3390	3447	3504	3561	3618	3675	3732	3789	
7610		3847	3904	3961	4018	4075	4132	4189	4246	4303	4360	57
11		4417	4474	4531	4588	4645	4703	4760	4817	4874	4931	1-6
12		4988	5045	5102	5159	5216	5273	5330	5387	5444	5501	2-11
13		5558	5615	5672	5729	5786	5844	5901	5958	6015	6072	3-17
14		6129	6186	6243	6300	6357	6414	6471	6528	6585	6642	4-23
15		6699	6756	6813	6870	6927	6984	7041	7098	7155	7212	5-28
16		7269	7326	7383	7440	7497	7554	7611	7669	7726	7783	6-34
17		7840	7897	7954	8011	8068	8125	8182	8239	8296	8353	7-40
18		8410	8467	8524	8581	8638	8695	8752	8809	8866	8923	8-46
19		8980	9037	9094	9151	9208	9265	9322	9379	9436	9493	9-51
7620		9550	9607	9664	9721	9778	9835	9892	9949	0006	0063	
21	882	0120	0177	0234	0291	0348	0405	0462	0519	0575	0632	
22		0689	0746	0803	0860	0917	0974	1031	1088	1145	1202	
23		1259	1316	1373	1430	1487	1544	1601	1658	1715	1772	
24		1829	1886	1943	2000	2057	2114	2171	2228	2285	2342	
25		2398	2455	2512	2569	2626	2683	2740	2797	2854	2911	
26		2968	3025	3082	3139	3196	3253	3310	3367	3424	3481	56.9
27		3537	3594	3651	3708	3765	3822	3879	3936	3993	4050	
28		4107	4164	4221	4278	4335	4392	4448	4505	4562	4619	
29		4676	4733	4790	4847	4904	4961	5018	5075	5132	5188	
7630		5245	5302	5359	5416	5473	5530	5587	5644	5701	5758	
31		5815	5871	5928	5985	6042	6099	6156	6213	6270	6327	
32		6384	6441	6497	6554	6611	6668	6725	6782	6839	6896	
33		6953	7010	7066	7123	7180	7237	7294	7351	7408	7465	
34		7522	7578	7635	7692	7749	7806	7863	7920	7977	8034	
35		8090	8147	8204	8261	8318	8375	8432	8489	8545	8602	
36		8659	8716	8773	8830	8887	8944	9000	9057	9114	9171	
37		9228	9285	9342	9399	9455	9512	9569	9626	9683	9740	
38		9797	9853	9910	9967	0024	0081	0138	0195	0251	0308	
39	883	0365	0422	0479	0536	0593	0649	0706	0763	0820	0877	56.8
7640		0934	0990	1047	1104	1161	1218	1275	1331	1388	1445	
41		1502	1559	1616	1673	1729	1786	1843	1900	1957	2014	
42		2070	2127	2184	2241	2298	2354	2411	2468	2525	2582	
43		2639	2695	2752	2809	2866	2923	2980	3036	3093	3150	
44		3207	3264	3320	3377	3434	3491	3548	3604	3661	3718	
45		3775	3832	3889	3945	4002	4059	4116	4173	4229	4286	
46		4343	4400	4457	4513	4570	4627	4684	4741	4797	4854	
47		4911	4968	5024	5081	5138	5195	5252	5308	5365	5422	
48		5479	5536	5592	5649	5706	5763	5819	5876	5933	5990	
49		6047	6103	6160	6217	6274	6330	6387	6444	6501	6558	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7650	883	6614	6671	6728	6785	6841	6898	6955	7012	7068	7125	
51		7182	7239	7296	7352	7409	7466	7523	7579	7636	7693	
52		7750	7806	7863	7920	7977	8033	8090	8147	8204	8260	
53		8317	8374	8431	8487	8544	8601	8658	8714	8771	8828	56.7
54		8885	8941	8998	9055	9112	9168	9225	9282	9338	9395	
55		9452	9509	9565	9622	9679	9736	9792	9849	9906	9963	
56	884	0019	0076	0133	0189	0246	0303	0360	0416	0473	0530	
57		0586	0643	0700	0757	0813	0870	0927	0983	1040	1097	
58		1154	1210	1267	1324	1380	1437	1494	1551	1607	1664	
59		1721	1777	1834	1891	1948	2004	2061	2118	2174	2231	
7660		2288	2344	2401	2458	2514	2571	2628	2685	2741	2798	
61		2855	2911	2968	3025	3081	3138	3195	3251	3308	3365	
62		3421	3478	3535	3592	3648	3705	3762	3818	3875	3932	
63		3988	4045	4102	4158	4215	4272	4328	4385	4442	4498	
64		4555	4612	4668	4725	4782	4838	4895	4952	5008	5065	
65		5122	5178	5235	5292	5348	5405	5462	5518	5575	5631	
66		5688	5745	5801	5858	5915	5971	6028	6085	6141	6198	56.6
67		6255	6311	6368	6425	6481	6538	6594	6651	6708	6764	
68		6821	6878	6934	6991	7048	7104	7161	7217	7274	7331	
69		7387	7444	7501	7557	7614	7671	7727	7784	7840	7897	
7670		7954	8010	8067	8124	8180	8237	8293	8350	8407	8463	
71		8520	8576	8633	8690	8746	8803	8860	8916	8973	9029	
72		9086	9143	9199	9256	9312	9369	9426	9482	9539	9595	
73		9652	9709	9765	9822	9878	9935	9992	0048	0105	0161	
74	885	0218	0275	0331	0388	0444	0501	0557	0614	0671	0727	
75		0784	0840	0897	0954	1010	1067	1123	1180	1237	1293	
76		1350	1406	1463	1519	1576	1633	1689	1746	1802	1859	
77		1915	1972	2029	2085	2142	2198	2255	2311	2368	2425	
78		2481	2538	2594	2651	2707	2764	2820	2877	2934	2990	
79		3047	3103	3160	3216	3273	3329	3386	3443	3499	3556	
7680		3612	3669	3725	3782	3838	3895	3951	4008	4065	4121	56.5
81		4178	4234	4291	4347	4404	4460	4517	4573	4630	4686	
82		4743	4800	4856	4913	4969	5026	5082	5139	5195	5252	
83		5308	5365	5421	5478	5534	5591	5647	5704	5761	5817	
84		5874	5930	5987	6043	6100	6156	6213	6269	6326	6382	
85		6439	6495	6552	6608	6665	6721	6778	6834	6891	6947	
86		7004	7060	7117	7173	7230	7286	7343	7399	7456	7512	
87		7569	7625	7682	7738	7795	7851	7908	7964	8021	8077	
88		8134	8190	8247	8303	8360	8416	8473	8529	8586	8642	
89		8699	8755	8812	8868	8925	8981	9037	9094	9150	9207	
7690		9263	9320	9376	9433	9489	9546	9602	9659	9715	9772	56.5
91		9828	9885	9941	9998	0054	0110	0167	0223	0280	0336	1-6
92	886	0393	0449	0506	0562	0619	0675	0732	0788	0844	0901	2-11
93		0957	1014	1070	1127	1183	1240	1296	1352	1409	1465	56.4
94		1522	1578	1635	1691	1748	1804	1860	1917	1973	2030	4-23
95		2086	2143	2199	2256	2312	2368	2425	2481	2538	2594	5-28
96		2651	2707	2763	2820	2876	2933	2989	3046	3102	3158	6-34
97		3215	3271	3328	3384	3441	3497	3553	3610	3666	3723	7-40
98		3779	3835	3892	3948	4005	4061	4118	4174	4230	4287	8-45
99		4343	4400	4456	4512	4569	4625	4682	4738	4794	4851	9-51
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 77000. L. 886.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7700	886.4907	4964	5020	5076	5133	5189	5246	5302	5358	5415		56.5
01	5471	5528	5584	5640	5697	5753	5810	5866	5922	5979		1-6
02	6035	6092	6148	6204	6261	6317	6373	6430	6486	6543		2-11
03	6599	6655	6712	6768	6824	6881	6937	6994	7050	7106		3-17
04	7163	7219	7275	7332	7388	7445	7501	7557	7614	7670		4-23
05	7726	7783	7839	7896	7952	8008	8065	8121	8177	8234		5-28
06	8290	8346	8403	8459	8515	8572	8628	8685	8741	8797		6-34
07	8854	8910	8966	9023	9079	9135	9192	9248	9304	9361	56.3	7-40
08	9417	9473	9530	9586	9642	9699	9755	9811	9868	9924		8-45
09	9980	0037	0093	0149	0206	0262	0318	0375	0431	0487		9-51
7710	887.0544	0600	0656	0713	0769	0825	0882	0938	0994	1051		
11	1107	1163	1220	1276	1332	1389	1445	1501	1558	1614		
12	1670	1727	1783	1839	1895	1952	2008	2064	2121	2177		
13	2233	2290	2346	2402	2459	2515	2571	2627	2684	2740		
14	2796	2853	2909	2965	3022	3078	3134	3190	3247	3303		
15	3359	3416	3472	3528	3584	3641	3697	3753	3810	3866		
16	3922	3978	4035	4091	4147	4204	4260	4316	4372	4429		
17	4485	4541	4598	4654	4710	4766	4823	4879	4935	4991		
18	5048	5104	5160	5217	5273	5329	5385	5442	5498	5554		
19	5610	5667	5723	5779	5835	5892	5948	6004	6060	6117		
7720	6173	6229	6286	6342	6398	6454	6511	6567	6623	6679		
21	6736	6792	6848	6904	6960	7017	7073	7129	7185	7242	56.2	
22	7298	7354	7410	7467	7523	7579	7635	7692	7748	7804		
23	7860	7917	7973	8029	8085	8142	8198	8254	8310	8366		
24	8423	8479	8535	8591	8648	8704	8760	8816	8872	8929		
25	8985	9041	9097	9154	9210	9266	9322	9378	9435	9491		
26	9547	9603	9659	9716	9772	9828	9884	9941	9997	0053		
27	888.0109	0165	0222	0278	0334	0390	0446	0503	0559	0615		
28	0671	0727	0784	0840	0896	0952	1008	1064	1121	1177		
29	1233	1289	1345	1402	1458	1514	1570	1626	1683	1739		
7730	1795	1851	1907	1963	2020	2076	2132	2188	2244	2301		
31	2357	2413	2469	2525	2581	2638	2694	2750	2806	2862		
32	2918	2975	3031	3087	3143	3199	3255	3312	3368	3424		
33	3480	3536	3592	3649	3705	3761	3817	3873	3929	3986		
34	4042	4098	4154	4210	4266	4322	4379	4435	4491	4547		
35	4603	4659	4715	4772	4828	4884	4940	4996	5052	5108	56.1	
36	5165	5221	5277	5333	5389	5445	5501	5558	5614	5670		
37	5726	5782	5838	5894	5950	6007	6063	6119	6175	6231		
38	6287	6343	6400	6456	6512	6568	6624	6680	6736	6792		
39	6848	6905	6961	7017	7073	7129	7185	7241	7297	7353		
7740	7410	7466	7522	7578	7634	7690	7746	7802	7858	7915		
41	7971	8027	8083	8139	8195	8251	8307	8363	8419	8476		
42	8532	8588	8644	8700	8756	8812	8868	8924	8980	9037		
43	9093	9149	9205	9261	9317	9373	9429	9485	9541	9597		
44	9653	9710	9766	9822	9878	9934	9990	0046	0102	0158		
45	889.0214	0270	0326	0382	0439	0495	0551	0607	0663	0719		
46	0775	0831	0887	0943	0999	1055	1111	1167	1223	1279		
47	1336	1392	1448	1504	1560	1616	1672	1728	1784	1840		
48	1896	1952	2008	2064	2120	2176	2232	2288	2345	2401	56	
49	2457	2513	2569	2625	2681	2737	2793	2849	2905	2961		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

to 101000.

N. 77500. L. 889

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7750	889	3017	3073	3129	3185	3241	3297	3353	3409	3465	3521	56
51		3577	3633	3689	3745	3801	3858	3914	3970	4026	4082	1-6
52		4138	4194	4250	4306	4362	4418	4474	4530	4586	4642	2-11
53		4698	4754	4810	4866	4922	4978	5034	5090	5146	5202	3-17
54		5258	5314	5370	5426	5482	5538	5594	5650	5706	5762	4-22
55		5818	5874	5930	5986	6042	6098	6154	6210	6266	6322	5-28
56		6378	6434	6490	6546	6602	6658	6714	6770	6826	6882	6-34
57		6938	6994	7050	7106	7162	7218	7274	7330	7386	7442	7-39
58		7498	7554	7610	7666	7722	7778	7834	7890	7946	8002	8-45
59		8058	8113	8169	8225	8281	8337	8393	8449	8505	8561	9-50
7760		8617	8673	8729	8785	8841	8897	8953	9009	9065	9121	
61		9177	9233	9289	9345	9401	9457	9513	9569	9624	9680	
62		9736	9792	9848	9904	9960	0016	0072	0128	0184	0240	55-9
63	890	0296	0352	0408	0464	0520	0576	0632	0687	0743	0799	
64		0855	0911	0967	1023	1079	1135	1191	1247	1303	1359	
65		1415	1471	1526	1582	1638	1694	1750	1806	1862	1918	
66		1974	2030	2086	2142	2198	2253	2309	2365	2421	2477	
67		2533	2589	2645	2701	2757	2813	2869	2924	2980	3036	
68		3092	3148	3204	3260	3316	3372	3428	3484	3539	3595	
69		3651	3707	3763	3819	3875	3931	3987	4043	4098	4154	
7770		4210	4266	4322	4378	4434	4490	4546	4601	4657	4713	
71		4769	4825	4881	4937	4993	5049	5104	5160	5216	5272	
72		5328	5384	5440	5496	5551	5607	5663	5719	5775	5831	
73		5887	5943	5998	6054	6110	6166	6222	6278	6334	6389	
74		6445	6501	6557	6613	6669	6725	6781	6836	6892	6948	
75		7004	7060	7116	7172	7227	7283	7339	7395	7451	7507	
76		7563	7618	7674	7730	7786	7842	7898	7953	8009	8065	55-8
77		8121	8177	8233	8289	8344	8400	8456	8512	8568	8624	
78		8679	8735	8791	8847	8903	8959	9014	9070	9126	9182	
79		9238	9294	9349	9405	9461	9517	9573	9629	9684	9740	
7780		9796	9852	9908	9963	0019	0075	0131	0187	0243	0298	
81	891	0354	0410	0466	0522	0577	0633	0689	0745	0801	0856	
82		0912	0968	1024	1080	1135	1191	1247	1303	1359	1415	
83		1470	1526	1582	1638	1693	1749	1805	1861	1917	1972	
84		2028	2084	2140	2196	2251	2307	2363	2419	2475	2530	
85		2586	2642	2698	2754	2809	2865	2921	2977	3032	3088	
86		3144	3200	3256	3311	3367	3423	3479	3534	3590	3646	
87		3702	3758	3813	3869	3925	3981	4036	4092	4148	4204	
88		4259	4315	4371	4427	4482	4538	4594	4650	4706	4761	
89		4817	4873	4929	4984	5040	5096	5152	5207	5263	5319	
7790		5375	5430	5486	5542	5598	5653	5709	5765	5821	5876	55-7
91		5932	5988	6044	6099	6155	6211	6266	6322	6378	6434	1-6
92		6489	6545	6601	6657	6712	6768	6824	6880	6935	6991	2-11
93		7047	7103	7158	7214	7270	7325	7381	7437	7493	7548	3-17
94		7604	7660	7715	7771	7827	7883	7938	7994	8050	8105	4-22
95		8161	8217	8273	8328	8384	8440	8495	8551	8607	8663	5-28
96		8718	8774	8830	8885	8941	8997	9053	9108	9164	9220	6-33
97		9275	9331	9387	9442	9498	9554	9610	9665	9721	9777	7-39
98		9832	9888	9944	9999	0055	0111	0166	0222	0278	0334	8-44
99	892	0389	0445	0501	0556	0612	0668	0723	0779	0835	0890	9-50
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 78000. L. 892.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7800	892.0946	1002	1057	1113	1169	1224	1280	1336	1391	1447		
01	1503	1558	1614	1670	1725	1781	1837	1892	1948	2004		
02	2052	2115	2171	2226	2282	2338	2393	2449	2505	2560		
03	2616	2672	2727	2783	2839	2894	2950	3006	3061	3117		
04	3173	3228	3284	3340	3395	3451	3506	3562	3618	3673	55-6	
05	3729	3785	3840	3896	3952	4007	4063	4119	4174	4230		
06	4285	4341	4397	4452	4508	4564	4619	4675	4731	4786		
07	4842	4897	4953	5009	5064	5120	5176	5231	5287	5342		
08	5398	5454	5509	5565	5621	5676	5732	5787	5843	5899		
09	5954	6010	6065	6121	6177	6232	6288	6344	6399	6455		
7810	6510	6566	6622	6677	6733	6788	6844	6900	6955	7011		
11	7066	7122	7178	7233	7289	7344	7400	7456	7511	7567		
12	7622	7678	7734	7789	7845	7900	7956	8011	8067	8123		
13	8178	8234	8289	8345	8401	8456	8512	8567	8623	8678		
14	8734	8790	8845	8901	8956	9012	9068	9123	9179	9234		
15	9290	9345	9401	9457	9512	9568	9623	9679	9734	9790		
16	9846	9901	9957	0012	0068	0123	0179	0234	0290	0346		
17	893.0401	0457	0512	0568	0623	0679	0734	0790	0846	0901		
18	0957	1012	1068	1123	1179	1234	1290	1345	1401	1457	55-5	
19	1512	1568	1623	1679	1734	1790	1845	1901	1956	2012		
7820	2068	2123	2179	2234	2290	2345	2401	2456	2512	2567		55-5
21	2623	2678	2734	2789	2845	2900	2956	3012	3067	3123		1-8
22	3178	3234	3289	3345	3400	3456	3511	3567	3622	3678		2-11
23	3733	3789	3844	3900	3955	4011	4066	4122	4177	4233		3-17
24	4288	4344	4399	4455	4510	4566	4621	4677	4732	4788		4-22
25	4843	4899	4954	5010	5065	5121	5176	5232	5287	5343		5-28
26	5398	5454	5509	5565	5620	5676	5731	5787	5842	5898		6-33
27	5953	6009	6064	6120	6175	6231	6286	6342	6397	6453		7-39
28	6508	6564	6619	6675	6730	6786	6841	6897	6952	7007		8-44
29	7063	7118	7174	7229	7285	7340	7396	7451	7507	7562		9-50
7830	7618	7673	7729	7784	7839	7895	7950	8006	8061	8117		
31	8172	8228	8283	8339	8394	8450	8505	8560	8616	8671		
32	8727	8782	8838	8893	8949	9004	9059	9115	9170	9226	55-4	
33	9281	9337	9392	9448	9503	9558	9614	9669	9725	9780		
34	9836	9891	9947	0002	0057	0113	0168	0224	0279	0335		
35	894.0390	0445	0501	0556	0612	0667	0723	0778	0833	0889		
36	0944	1000	1055	1111	1166	1221	1277	1332	1388	1443		
37	1498	1554	1609	1665	1720	1776	1831	1886	1942	1997		
38	2053	2108	2163	2219	2274	2330	2385	2440	2495	2551		
39	2607	2662	2717	2773	2828	2884	2939	2994	3050	3105		
7840	3161	3216	3271	3327	3382	3438	3493	3548	3604	3659		
41	3715	3770	3825	3881	3936	3991	4047	4102	4158	4213		
42	4268	4324	4379	4435	4490	4545	4601	4656	4711	4767		
43	4822	4878	4933	4988	5044	5099	5154	5210	5265	5320		
44	5376	5431	5487	5542	5597	5653	5708	5763	5819	5874		
45	5929	5985	6040	6096	6151	6206	6262	6317	6372	6428		
46	6483	6538	6594	6649	6704	6760	6815	6870	6926	6981	55-3	
47	7037	7092	7147	7203	7258	7313	7369	7424	7479	7535		
48	7590	7645	7701	7756	7811	7867	7922	7977	8033	8088		
49	8143	8199	8254	8309	8365	8420	8475	8531	8586	8641		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 78500. L. 89

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7850	894	8697	8752	8807	8863	8918	8973	9028	9084	9139	9194	
51		9209	9305	9360	9416	9471	9526	9582	9637	9692	9748	
52		9803	9858	9914	9969	0024	0079	0134	0190	0245	0301	
53	894	0356	0411	0467	0522	0577	0632	0688	0743	0798	0854	
54		0909	0964	1020	1075	1130	1185	1241	1296	1351	1407	
55		1462	1517	1572	1628	1683	1738	1794	1849	1904	1959	
56		2015	2070	2125	2181	2236	2291	2346	2402	2457	2512	
57		2568	2623	2678	2733	2789	2844	2899	2954	3010	3065	
58		3120	3176	3231	3286	3341	3397	3452	3507	3562	3618	
59		3673	3728	3783	3839	3894	3949	4004	4060	4114	4170	
7860		4225	4281	4336	4391	4446	4502	4557	4612	4667	4723	
61		4778	4833	4888	4944	4999	5054	5109	5165	5220	5275	55.2
62		5330	5386	5441	5496	5551	5607	5662	5717	5772	5828	
63		5883	5938	5993	6048	6104	6159	6214	6269	6324	6380	
64		6435	6490	6545	6601	6656	6711	6766	6822	6877	6932	
65		6987	7042	7098	7153	7208	7263	7319	7374	7429	7484	
66		7539	7595	7650	7705	7760	7815	7871	7926	7981	8036	
67		8092	8147	8202	8257	8312	8368	8423	8478	8533	8588	
68		8644	8699	8754	8809	8864	8919	8975	9030	9085	9140	
69		9195	9251	9306	9361	9416	9471	9527	9582	9637	9692	
7870		9748	9803	9858	9913	9968	0023	0078	0134	0189	0244	
71	896	0299	0354	0409	0465	0520	0575	0630	0685	0741	0796	
72		0851	0906	0961	1016	1072	1127	1182	1237	1292	1347	
73		1403	1458	1513	1568	1623	1678	1733	1789	1844	1899	
74		1954	2009	2064	2120	2175	2230	2285	2340	2395	2450	
75		2506	2561	2616	2671	2726	2781	2836	2892	2947	3002	55.1
76		3057	3112	3167	3222	3278	3333	3388	3443	3498	3553	
77		3608	3664	3719	3774	3829	3884	3939	3994	4049	4105	
78		4160	4215	4270	4325	4380	4435	4491	4546	4601	4656	
79		4711	4766	4821	4876	4931	4987	5042	5097	5152	5207	
7880		5262	5317	5372	5428	5483	5538	5593	5648	5703	5758	
81		5813	5868	5923	5979	6034	6089	6144	6199	6254	6309	
82		6364	6419	6475	6530	6585	6640	6695	6750	6805	6860	
83		6915	6970	7025	7081	7136	7191	7246	7301	7356	7411	
84		7466	7521	7576	7631	7686	7742	7797	7852	7907	7962	
85		8017	8072	8127	8182	8237	8292	8347	8403	8458	8513	
86		8568	8623	8678	8733	8788	8843	8898	8953	9008	9063	
87		9118	9173	9229	9284	9339	9394	9449	9504	9559	9614	
88		9669	9724	9779	9834	9889	9944	9999	0054	0109	0165	
89	897	0220	0275	0330	0385	0440	0495	0550	0605	0660	0715	55
7890		0770	0825	0880	0935	0990	1045	1100	1155	1210	1265	55
91		1320	1375	1431	1486	1541	1596	1651	1706	1761	1816	55.1
92		1871	1926	1981	2036	2091	2146	2201	2256	2311	2366	55.11
93		2421	2476	2531	2586	2641	2696	2751	2806	2861	2916	55.111
94		2971	3026	3081	3136	3191	3246	3301	3356	3411	3466	55.112
95		3521	3576	3631	3686	3741	3796	3851	3906	3961	4016	55.12
96		4071	4126	4181	4236	4291	4346	4401	4456	4511	4566	55.13
97		4621	4676	4731	4786	4841	4896	4951	5006	5061	5116	55.14
98		5171	5226	5281	5336	5391	5446	5501	5556	5611	5666	55.15
99		5721	5776	5831	5886	5941	5996	6051	6106	6161	6216	55.16
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.79000. L. 897.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7900	897.6271	6324	6381	6436	6491	6546	6602	6656	6711	6766		58
01	6821	6876	6931	6986	7040	7095	7150	7205	7260	7315		1-1
02	7370	7425	7480	7535	7590	7645	7700	7755	7810	7865		2-11
03	7920	7975	8030	8085	8140	8195	8250	8305	8359	8414	54-9	3-11
04	8469	8524	8579	8634	8689	8744	8799	8854	8909	8964		4-21
05	9019	9074	9129	9184	9238	9293	9348	9403	9458	9513		5-27
06	9568	9623	9678	9733	9788	9843	9898	9953	0008	0062		6-31
07	898.0117	0172	0227	0282	0337	0392	0447	0502	0557	0612		7-31
08	0667	0722	0776	0831	0886	0941	0996	1051	1106	1161		8-41
09	1216	1271	1326	1380	1435	1490	1545	1600	1655	1710		9-45
7910	1765	1820	1875	1930	1984	2039	2094	2149	2204	2259		
11	2314	2369	2424	2479	2533	2588	2643	2698	2753	2808		
12	2863	2918	2973	3027	3082	3137	3192	3247	3302	3357		
13	3412	3467	3521	3576	3631	3686	3741	3796	3851	3906		
14	3960	4015	4070	4125	4180	4235	4290	4345	4399	4454		
15	4509	4564	4619	4674	4729	4784	4838	4893	4948	5003		
16	5058	5113	5168	5222	5277	5332	5387	5442	5497	5552		
17	5606	5661	5716	5771	5826	5881	5936	5990	6045	6100		
18	6155	6210	6265	6320	6374	6429	6484	6539	6594	6649	54-8	
19	6703	6758	6813	6868	6923	6978	7032	7087	7142	7197		
7920	7252	7307	7361	7416	7471	7526	7581	7636	7690	7745		
21	7800	7855	7910	7965	8019	8074	8129	8184	8239	8294		
22	8348	8403	8458	8513	8568	8622	8677	8732	8787	8842		
23	8897	8951	9006	9061	9116	9171	9225	9280	9335	9390		
24	9445	9499	9554	9609	9664	9719	9774	9828	9883	9938		
25	9993	0048	0102	0157	0212	0267	0321	0376	0431	0486		
26	899.0541	0595	0650	0705	0760	0815	0869	0924	0979	1034		
27	1089	1143	1198	1253	1308	1363	1417	1472	1527	1582		
28	1636	1691	1746	1801	1856	1910	1965	2020	2075	2129		
29	2184	2239	2294	2348	2403	2458	2513	2568	2622	2677		
7930	2732	2787	2841	2896	2951	3006	3060	3115	3170	3225		
31	3279	3334	3389	3444	3499	3553	3608	3663	3718	3772		
32	3827	3882	3937	3991	4046	4101	4156	4211	4265	4320	54-7	
33	4375	4429	4484	4539	4594	4648	4703	4758	4812	4867		
34	4922	4977	5031	5086	5141	5196	5250	5305	5360	5415		
35	5469	5524	5579	5634	5688	5743	5798	5852	5907	5962		
36	6017	6071	6126	6181	6235	6290	6345	6400	6454	6509		
37	6564	6619	6673	6728	6783	6837	6892	6947	7002	7056		
38	7111	7166	7220	7275	7330	7384	7439	7494	7549	7603		
39	7658	7713	7767	7822	7877	7932	7986	8041	8096	8150		
7940	8205	8260	8314	8369	8424	8479	8533	8588	8643	8697		
41	8752	8807	8861	8916	8971	9025	9080	9135	9189	9244		
42	9299	9354	9408	9463	9518	9572	9627	9682	9736	9791		
43	9846	9900	9955	0010	0064	0119	0174	0228	0283	0338		
44	900.0392	0447	0502	0555	0611	0666	0720	0775	0830	0884		
45	0939	0994	1048	1103	1158	1212	1267	1322	1376	1431		
46	1486	1540	1595	1650	1704	1759	1814	1868	1923	1977		
47	2032	2087	2141	2196	2251	2305	2360	2415	2469	2524		
48	2579	2633	2688	2743	2797	2852	2906	2961	3016	3070	54-6	
49	3125	3180	3234	3289	3344	3398	3453	3507	3562	3617		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 79500. L. 900

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
7950	900	3671	3726	3781	3835	3890	3944	3999	4054	4108	4163	
51		4218	4272	4327	4381	4436	4491	4545	4600	4654	4709	
52		4764	4818	4873	4928	4982	5037	5091	5146	5201	5255	
53		5310	5364	5419	5474	5528	5583	5637	5692	5747	5801	
54		5856	5910	5965	6020	6074	6129	6183	6238	6293	6347	
55		6402	6456	6511	6566	6620	6675	6729	6784	6839	6893	
56		6948	7002	7057	7112	7166	7221	7275	7330	7384	7439	
57		7494	7548	7603	7657	7712	7766	7821	7876	7930	7985	
58		8039	8094	8148	8203	8258	8312	8367	8421	8476	8530	
59		8585	8640	8694	8749	8803	8858	8912	8967	9022	9076	
7960		9131	9185	9240	9294	9349	9403	9458	9513	9567	9622	
61		9676	9731	9785	9840	9894	9949	0004	0058	0113	0167	44.5
62	901	0222	0276	0331	0385	0440	0494	0549	0604	0658	0713	
63		0767	0822	0876	0931	0985	1040	1094	1149	1203	1258	
64		1313	1367	1422	1476	1531	1585	1640	1694	1747	1803	
65		1858	1912	1967	2021	2076	2130	2185	2239	2294	2349	
66		2403	2458	2512	2567	2621	2676	2730	2785	2839	2894	
67		2948	3003	3057	3112	3166	3221	3275	3330	3384	3439	
68		3493	3548	3602	3657	3711	3766	3820	3875	3929	3984	
69		4038	4093	4147	4202	4256	4311	4365	4420	4474	4529	
7970		4583	4640	4692	4747	4801	4856	4910	4965	5019	5074	54.5
71		5128	5183	5237	5292	5346	5401	5455	5509	5564	5618	1-5
72		5673	5727	5782	5836	5891	5945	6000	6054	6109	6163	2-11
73		6218	6272	6327	6381	6436	6490	6544	6599	6653	6708	3-16
74		6762	6817	6871	6926	6980	7035	7089	7144	7198	7252	4-22
75		7307	7361	7416	7470	7525	7579	7634	7688	7743	7797	5-27
76		7851	7906	7960	8015	8069	8124	8178	8233	8287	8341	54.4
77		8396	8450	8505	8559	8614	8668	8723	8777	8831	8886	6-33
78		8940	8995	9049	9104	9158	9212	9267	9321	9376	9430	7-38
79		9485	9539	9594	9648	9702	9757	9811	9866	9920	9974	8-44
7980	902	0029	0083	0138	0192	0247	0301	0355	0410	0464	0519	9-49
81		0573	0628	0682	0736	0791	0845	0900	0954	1008	1063	
82		1117	1172	1226	1280	1335	1389	1444	1498	1552	1607	
83		1661	1716	1770	1824	1879	1933	1988	2042	2096	2151	
84		2205	2260	2314	2368	2423	2477	2532	2586	2640	2695	
85		2749	2804	2858	2912	2967	3021	3076	3130	3184	3239	
86		3293	3347	3402	3456	3511	3565	3619	3674	3728	3782	
87		3837	3891	3946	4000	4054	4109	4163	4217	4272	4326	
88		4381	4435	4489	4544	4598	4652	4707	4761	4815	4870	
89		4924	4979	5033	5087	5142	5196	5250	5305	5359	5413	
7990		5468	5522	5577	5631	5685	5740	5794	5848	5903	5957	
91		6011	6066	6120	6174	6229	6283	6337	6392	6446	6500	54.3
92		6555	6609	6663	6718	6772	6826	6881	6935	6989	7044	
93		7098	7152	7207	7261	7315	7370	7424	7478	7533	7587	
94		7641	7696	7750	7804	7859	7913	7967	8022	8076	8130	
95		8185	8239	8293	8348	8402	8456	8511	8565	8619	8674	
96		8728	8782	8836	8891	8945	8999	9054	9108	9162	9217	
97		9271	9325	9380	9434	9488	9542	9597	9651	9705	9760	
98		9814	9868	9923	9977	0031	0085	0140	0194	0248	0303	
99	903	0357	0411	0466	0520	0574	0628	0683	0737	0791	0846	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8000	903.	0900	0954	1008	1053	1117	1171	1226	1280	1334	1388	
01		1443	1497	1551	1606	1660	1714	1768	1823	1877	1931	
02		1985	2040	2094	2148	2203	2257	2311	2365	2420	2474	
03		2528	2582	2637	2691	2745	2799	2854	2908	2962	3017	
04		3071	3125	3179	3234	3288	3342	3396	3451	3505	3559	
05		3513	3668	3722	3776	3830	3885	3939	3993	4047	4102	
06		4156	4210	4264	4319	4373	4427	4481	4536	4590	4644	54.2
07		4698	4753	4807	4861	4915	4969	5024	5078	5132	5186	
08		5241	5295	5349	5403	5458	5512	5566	5620	5674	5729	
09		5783	5837	5891	5946	6000	6054	6108	6163	6217	6271	
8010		6325	6379	6434	6488	6542	6596	6650	6705	6759	6813	
11		6867	6922	6976	7030	7084	7138	7193	7247	7301	7355	
12		7409	7464	7518	7572	7626	7680	7735	7789	7843	7897	
13		7951	8006	8060	8114	8168	8222	8277	8331	8385	8439	
14		8493	8548	8602	8656	8710	8764	8819	8873	8927	8981	
15		9035	9089	9144	9198	9252	9306	9360	9415	9469	9523	
16		9577	9631	9685	9740	9794	9848	9902	9956	0010	0065	
17	904.	0119	0173	0227	0281	0336	0390	0444	0498	0552	0606	
18		0661	0715	0769	0823	0877	0931	0985	1040	1094	1148	
19		1202	1256	1310	1364	1419	1473	1527	1581	1635	1690	
8020		1744	1798	1852	1906	1960	2014	2069	2123	2177	2231	54.1
21		2285	2339	2393	2448	2502	2556	2610	2664	2718	2772	
22		2827	2881	2935	2989	3043	3097	3151	3206	3260	3314	
23		3368	3422	3476	3530	3584	3639	3693	3747	3801	3855	
24		3909	3963	4017	4072	4126	4180	4234	4288	4342	4396	
25		4450	4505	4559	4613	4667	4721	4775	4829	4883	4937	
26		4992	5046	5100	5154	5208	5262	5316	5370	5424	5479	
27		5533	5587	5641	5695	5749	5803	5857	5911	5965	6020	
28		6074	6128	6182	6236	6290	6344	6398	6452	6506	6560	
29		6615	6669	6723	6777	6831	6885	6939	6993	7047	7101	
8030		7155	7210	7264	7318	7372	7426	7480	7534	7588	7642	
31		7696	7750	7804	7858	7913	7967	8021	8075	8129	8183	
32		8237	8291	8345	8399	8453	8507	8561	8615	8670	8724	
33		8778	8832	8886	8940	8994	9048	9102	9156	9210	9264	
34		9318	9372	9426	9480	9534	9588	9643	9697	9751	9805	
35		9859	9913	9967	0021	0075	0129	0183	0237	0291	0345	54
36	905.	0399	0453	0507	0561	0615	0669	0724	0778	0831	0885	
37		0940	0994	1048	1102	1156	1210	1264	1318	1372	1426	
38		1480	1534	1588	1642	1696	1750	1804	1858	1912	1966	
39		2020	2074	2128	2182	2236	2290	2344	2398	2452	2506	
8040		2560	2615	2669	2723	2777	2831	2885	2939	2993	3047	54
41		3101	3155	3209	3263	3317	3371	3425	3479	3533	3587	1-5
42		3641	3695	3749	3803	3857	3911	3965	4019	4073	4127	2-11
43		4181	4235	4289	4343	4397	4451	4505	4559	4613	4667	3-16
44		4721	4775	4829	4883	4937	4991	5045	5099	5153	5207	4-22
45		5260	5314	5368	5422	5476	5530	5584	5638	5692	5746	5-27
46		5800	5854	5908	5962	6016	6070	6124	6178	6232	6286	6-32
47		6340	6394	6448	6502	6556	6610	6664	6718	6772	6826	7-38
48		6880	6934	6988	7042	7096	7149	7203	7257	7311	7365	8-43
49		7419	7473	7527	7581	7635	7689	7743	7797	7851	7905	9-49
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 80500. L. 905

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
80500	005	7955	8013	8067	8121	8175	8229	8282	8336	8390	8444	53-9
51		8498	8552	8606	8660	8714	8768	8822	8876	8930	8984	
52		9038	9092	9146	9199	9253	9307	9361	9415	9469	9523	
53		9577	9631	9685	9739	9793	9847	9901	9954	0008	0062	
54	906	0110	0170	0224	0278	0332	0386	0440	0494	0548	0601	
55		0655	0709	0763	0817	0871	0925	0979	1033	1087	1141	
56		1195	1248	1302	1356	1410	1464	1518	1572	1626	1680	
57		1734	1788	1841	1895	1949	2003	2057	2111	2165	2219	
58		2273	2327	2380	2434	2488	2542	2596	2650	2704	2758	
59		2812	2865	2919	2973	3027	3081	3135	3189	3243	3297	
60		3350	3404	3458	3512	3566	3620	3674	3728	3781	3835	
61		3889	3943	3997	4051	4105	4159	4212	4266	4320	4374	
62		4428	4482	4536	4590	4643	4697	4751	4805	4859	4913	
63		4967	5020	5074	5128	5182	5236	5290	5344	5397	5451	
64		5505	5559	5613	5667	5721	5774	5828	5882	5936	5990	
65		6044	6098	6151	6205	6259	6313	6367	6421	6474	6528	53-8
66		6582	6636	6690	6744	6798	6851	6905	6959	7013	7067	
67		7121	7174	7228	7282	7336	7390	7444	7497	7551	7605	
68		7659	7713	7767	7820	7874	7928	7982	8036	8090	8143	
69		8197	8251	8305	8359	8412	8466	8520	8574	8628	8682	
70		8735	8789	8843	8897	8951	9004	9058	9112	9166	9220	
71		9273	9327	9381	9435	9489	9543	9596	9650	9704	9758	
72		9812	9865	9919	9973	0027	0081	0134	0188	0242	0296	
73	907	0350	0403	0457	0511	0565	0618	0672	0726	0780	0834	
74		0887	0941	0995	1049	1103	1156	1210	1264	1318	1372	
75		1425	1479	1533	1587	1640	1694	1748	1802	1856	1909	
76		1963	2017	2071	2124	2178	2232	2286	2340	2393	2447	
77		2501	2555	2608	2662	2716	2770	2823	2877	2931	2985	
78		3038	3092	3146	3200	3254	3307	3361	3415	3469	3522	
79		3576	3630	3684	3737	3791	3845	3899	3952	4006	4060	
80		4114	4167	4221	4275	4329	4382	4436	4490	4544	4597	53-7
81		4651	4705	4759	4812	4866	4920	4974	5027	5081	5135	
82		5188	5242	5296	5350	5403	5457	5511	5565	5618	5672	
83		5726	5779	5833	5887	5941	5994	6048	6102	6156	6209	
84		6263	6317	6370	6424	6478	6532	6585	6639	6693	6747	
85		6800	6854	6908	6961	7015	7069	7123	7176	7230	7284	
86		7337	7391	7445	7498	7552	7606	7660	7713	7767	7821	
87		7874	7928	7982	8036	8089	8143	8197	8250	8304	8358	
88		8411	8465	8519	8573	8626	8680	8734	8787	8841	8895	
89		8948	9002	9056	9109	9163	9217	9270	9324	9378	9432	
90		9485	9539	9593	9646	9700	9754	9807	9861	9915	9968	53-5
91	908	0022	0076	0129	0183	0237	0290	0344	0398	0451	0505	1-5
92		0559	0612	0666	0720	0773	0827	0881	0934	0988	1042	2-1
93		1095	1149	1203	1256	1310	1364	1417	1471	1525	1578	3-16
94		1632	1686	1739	1793	1847	1900	1954	2008	2061	2115	4-21
95		2169	2222	2276	2329	2383	2437	2490	2544	2598	2651	53-6
96		2705	2759	2812	2866	2920	2973	3027	3080	3134	3188	6-3
97		3243	3297	3349	3403	3456	3510	3563	3617	3670	3724	7-37
98		3778	3831	3885	3939	3992	4046	4099	4153	4207	4260	8-4
99		4314	4368	4421	4475	4528	4582	4636	4689	4743	4797	9-48
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.

N. 81000. L. 908

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8100	908.4850	4904	4957	5011	5065	5118	5172	5225	5279	5333		
01	5386	5440	5494	5547	5601	5654	5708	5762	5815	5869		
02	5922	5976	6030	6083	6137	6190	6244	6298	6351	6405		
03	6458	6512	6566	6619	6673	6726	6780	6834	6887	6941		
04	6994	7048	7102	7155	7209	7262	7316	7369	7423	7477		
05	7530	7584	7637	7691	7745	7798	7852	7905	7959	8012		
06	8066	8120	8173	8227	8280	8334	8387	8441	8495	8548		
07	8602	8655	8709	8762	8816	8870	8923	8977	9030	9084		
08	9137	9191	9245	9298	9352	9405	9459	9512	9566	9619		
09	9673	9727	9780	9834	9887	9941	9994	0048	0101	0155		
8110	909.0209	0262	0316	0369	0423	0476	0530	0583	0637	0690	53-5	53-5
11	0744	0798	0851	0905	0958	1012	1065	1119	1172	1226		1-5
12	1279	1333	1386	1440	1494	1547	1601	1654	1708	1761		2-11
13	1815	1868	1922	1975	2029	2082	2135	2189	2243	2297		3-16
14	2350	2404	2457	2511	2564	2618	2671	2725	2778	2832		4-21
15	2885	2939	2992	3046	3099	3153	3206	3260	3313	3367		5-27
16	3420	3474	3527	3581	3634	3688	3741	3795	3848	3902		6-32
17	3955	4009	4062	4116	4169	4223	4276	4330	4383	4437		7-37
18	4490	4544	4597	4651	4704	4758	4811	4865	4918	4972		8-43
19	5025	5079	5132	5186	5239	5293	5346	5400	5453	5507		9-48
8120	5560	5614	5667	5721	5774	5828	5881	5935	5988	6042		
21	6095	6149	6202	6256	6309	6362	6416	6469	6523	6576		
22	6630	6683	6737	6790	6844	6897	6951	7004	7058	7111		
23	7165	7218	7271	7325	7378	7432	7485	7539	7592	7646		
24	7699	7753	7806	7860	7913	7966	8020	8073	8127	8180		
25	8234	8287	8341	8394	8447	8501	8554	8608	8661	8715	53-4	
26	8768	8822	8875	8929	8982	9035	9089	9142	9195	9249		
27	9302	9356	9409	9463	9516	9570	9623	9677	9730	9784		
28	9837	9890	9944	9997	0051	0104	0158	0211	0264	0318		
29	910.0371	0425	0478	0532	0585	0638	0692	0745	0799	0852		
8130	0905	0959	1012	1066	1119	1173	1226	1279	1333	1386		
31	1440	1493	1546	1600	1653	1707	1760	1813	1867	1920		
32	1974	2027	2081	2134	2187	2241	2294	2348	2401	2454		
33	2508	2561	2615	2668	2721	2775	2828	2881	2935	2988		
34	3042	3095	3148	3202	3255	3309	3362	3415	3469	3522		
35	3576	3629	3682	3736	3789	3842	3896	3949	4003	4056		
36	4109	4163	4216	4270	4323	4376	4430	4483	4536	4590		
37	4643	4697	4750	4803	4857	4910	4963	5017	5070	5123		
38	5177	5230	5284	5337	5390	5444	5497	5550	5604	5657		
39	5710	5764	5817	5871	5924	5977	6031	6084	6137	6191		
8140	6244	6297	6351	6404	6457	6511	6564	6618	6671	6724	53-3	
41	6778	6831	6884	6938	6991	7044	7098	7151	7204	7258		
42	7311	7364	7418	7471	7524	7578	7631	7684	7738	7791		
43	7844	7898	7951	8004	8058	8111	8164	8218	8271	8324		
44	8378	8431	8484	8538	8591	8644	8698	8751	8804	8858		
45	8911	8964	9018	9071	9124	9177	9231	9284	9337	9391		
46	9444	9497	9551	9604	9657	9711	9764	9817	9871	9924		
47	9977	0030	0084	0137	0190	0244	0297	0350	0404	0457		
48	911.0510	0564	0617	0670	0723	0777	0830	0883	0937	0990		
49	1043	1096	1150	1203	1256	1310	1363	1416	1470	1523		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 81500. L. 911

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8150	911.1576	1629	1683	1736	1789	1843	1896	1949	2002	2056		
51	2109	2162	2215	2269	2322	2375	2429	2482	2534	2588		
52	2642	2695	2748	2802	2855	2908	2961	3015	3068	3121		
53	3174	3228	3281	3334	3387	3441	3494	3547	3601	3654		
54	3707	3760	3814	3867	3920	3973	4027	4080	4133	4186		
55	4240	4293	4346	4399	4453	4506	4559	4612	4666	4719		
56	4772	4825	4879	4932	4985	5038	5092	5145	5198	5251	53.2	
57	5305	5358	5411	5464	5518	5571	5624	5677	5731	5784		
58	5837	5890	5943	5997	6050	6103	6156	6210	6263	6316		
59	6369	6423	6476	6529	6582	6635	6689	6742	6795	6848		
8160	6902	6955	7008	7061	7114	7168	7221	7274	7327	7381		
61	7434	7487	7540	7593	7647	7700	7753	7806	7859	7913		
62	7966	8019	8072	8126	8179	8232	8285	8338	8392	8445		
63	8498	8551	8604	8658	8711	8764	8817	8870	8924	8977		
64	9030	9083	9136	9190	9243	9296	9349	9402	9456	9509		
65	9562	9615	9668	9721	9775	9828	9881	9934	9987	0041		
66	912.0094	0147	0200	0253	0306	0360	0413	0466	0519	0572		
67	0626	0679	0732	0785	0837	0891	0945	0998	1051	1104		
68	1157	1210	1264	1317	1370	1423	1476	1529	1583	1636		
69	1689	1742	1795	1848	1902	1955	2008	2061	2114	2167		
8170	2221	2274	2327	2380	2433	2486	2539	2593	2646	2699		
71	2752	2805	2858	2912	2965	3018	3071	3124	3177	3230	53.1	
72	3284	3337	3390	3443	3496	3549	3602	3656	3709	3762		
73	3815	3868	3921	3974	4028	4081	4134	4187	4240	4293		
74	4346	4399	4453	4506	4559	4612	4665	4718	4771	4824		
75	4878	4931	4984	5037	5090	5143	5196	5249	5303	5356		
76	5409	5462	5515	5568	5621	5674	5728	5781	5834	5887		
77	5940	5993	6046	6099	6152	6206	6259	6312	6365	6418		
78	6471	6524	6577	6630	6683	6737	6790	6843	6896	6949		
79	7002	7055	7108	7161	7214	7268	7321	7374	7427	7480		
8180	7533	7586	7639	7692	7745	7798	7852	7905	7958	8011		
81	8064	8117	8170	8223	8276	8329	8382	8436	8489	8542		
82	8595	8648	8701	8754	8807	8860	8913	8967	9019	9072		
83	9126	9179	9232	9285	9338	9391	9444	9497	9550	9603		
84	9656	9709	9762	9815	9868	9922	9975	0028	0081	0134		
85	913.0187	0240	0293	0346	0399	0452	0505	0558	0611	0664		
86	0717	0770	0824	0877	0930	0983	1036	1089	1142	1195		
87	1248	1301	1354	1407	1460	1513	1566	1619	1672	1725	53	
88	1778	1831	1884	1937	1990	2044	2097	2150	2203	2256		
89	2309	2362	2415	2468	2521	2574	2627	2680	2733	2786		
8190	2839	2892	2945	2998	3051	3104	3157	3210	3263	3316		53
91	3369	3422	3475	3528	3581	3634	3687	3740	3793	3846		1-5
92	3899	3952	4005	4058	4111	4165	4218	4271	4324	4377		2-11
93	4430	4483	4536	4589	4642	4695	4748	4801	4854	4907		3-16
94	4960	5013	5066	5119	5172	5225	5278	5331	5384	5437		4-21
95	5490	5543	5596	5649	5702	5755	5808	5861	5914	5967		5-26
96	6019	6072	6125	6178	6231	6284	6337	6390	6443	6496		6-32
97	6549	6602	6655	6708	6761	6814	6867	6920	6973	7026		7-37
98	7079	7132	7185	7238	7291	7344	7397	7450	7503	7556		8-42
99	7609	7662	7715	7768	7821	7874	7927	7980	8033	8086		9-48
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8200	913.8139	8191	8244	8297	8350	8403	8456	8509	8562	8615		53
01	8668	8721	8774	8827	8880	8933	8986	9039	9092	9145		1-5
02	9198	9251	9304	9356	9409	9462	9515	9568	9621	9674	52.9	2-11
03	9727	9780	9833	9886	9939	9992	0045	0098	0151	0204		3-16
04	914.0257	0309	0362	0415	0468	0521	0574	0627	0680	0733		4-21
05	0786	0839	0892	0945	0998	1051	1103	1156	1209	1262		5-26
06	1315	1368	1421	1474	1527	1580	1633	1686	1738	1791		6-32
07	1844	1897	1950	2003	2056	2109	2162	2215	2268	2321		7-37
08	2373	2426	2479	2532	2585	2638	2691	2744	2797	2850		8-42
09	2903	2955	3008	3061	3114	3167	3220	3273	3326	3379		9-48
8210	3432	3484	3537	3590	3643	3696	3749	3802	3855	3908		
11	3961	4013	4066	4119	4172	4225	4278	4331	4384	4437		
12	4489	4542	4595	4648	4701	4754	4807	4860	4912	4965		
13	5018	5071	5124	5177	5230	5283	5335	5388	5441	5494		
14	5547	5600	5653	5706	5758	5811	5864	5917	5970	6023		
15	6076	6129	6181	6234	6287	6340	6393	6446	6499	6551		
16	6604	6657	6710	6763	6816	6869	6921	6974	7027	7080		
17	7133	7186	7239	7291	7344	7397	7450	7503	7556	7609	52.8	
18	7661	7714	7767	7820	7873	7926	7978	8031	8084	8137		
19	8190	8243	8295	8348	8401	8454	8507	8560	8613	8665		
8220	8718	8771	8824	8877	8930	8982	9035	9088	9141	9194		
21	9246	9299	9352	9405	9458	9511	9563	9616	9669	9722		
22	9775	9828	9880	9933	9986	0039	0092	0144	0197	0250		
23	915.0303	0356	0409	0461	0514	0567	0620	0673	0725	0778		
24	0831	0884	0937	0989	1042	1095	1148	1201	1253	1306		
25	1359	1412	1465	1518	1570	1623	1676	1729	1781	1834		
26	1887	1940	1993	2045	2098	2151	2204	2257	2309	2362		
27	2415	2468	2521	2573	2626	2679	2732	2784	2837	2890		
28	2943	2996	3048	3101	3154	3207	3260	3312	3365	3418		
29	3471	3523	3576	3629	3682	3734	3787	3840	3893	3946		
8230	3998	4051	4104	4157	4209	4262	4315	4368	4420	4473		
31	4526	4579	4632	4684	4737	4790	4843	4895	4948	5001		
32	5054	5106	5159	5212	5265	5317	5370	5423	5476	5528		
33	5581	5634	5687	5739	5792	5845	5898	5950	6003	6056	52.7	
34	6109	6161	6214	6267	6320	6372	6425	6478	6531	6583		
35	6636	6689	6742	6794	6847	6900	6952	7005	7058	7111		
36	7163	7216	7269	7322	7374	7427	7480	7532	7585	7638		
37	7691	7743	7796	7849	7902	7954	8007	8060	8112	8165		
38	8218	8271	8323	8376	8429	8481	8534	8587	8640	8692		
39	8745	8798	8850	8903	8956	9009	9061	9114	9167	9219		
8240	9272	9325	9378	9430	9483	9536	9588	9641	9694	9746		
41	9799	9852	9905	9957	0010	0063	0115	0168	0221	0273		
42	916.0326	0379	0431	0484	0537	0590	0642	0695	0748	0800		
43	0853	0906	0958	1011	1064	1116	1169	1222	1274	1327		
44	1380	1433	1485	1538	1591	1643	1696	1749	1801	1854		
45	1907	1959	2012	2065	2117	2170	2223	2275	2328	2381		
46	2433	2486	2539	2591	2644	2697	2749	2802	2855	2907		
47	2960	3013	3065	3118	3171	3223	3276	3329	3381	3434		
48	3487	3539	3592	3644	3697	3750	3802	3855	3908	3960		
49	4013	4066	4118	4171	4224	4276	4329	4382	4434	4487	52.6	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 10000.

N. 82500. L. 916

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8250	916	4530	4592	4645	4697	4750	4803	4855	4908	4961	5013	
51		5060	5119	5171	5224	5276	5329	5382	5434	5487	5540	
52		5592	5645	5697	5750	5803	5855	5908	5961	6013	6066	
53		6118	6171	6224	6276	6329	6382	6434	6487	6539	6592	
54		6645	6697	6750	6803	6855	6908	6960	7013	7066	7118	
55		7171	7223	7276	7329	7381	7434	7486	7539	7592	7644	
56		7697	7749	7802	7855	7907	7960	8012	8065	8118	8170	
57		8223	8275	8328	8381	8433	8485	8538	8591	8644	8696	
58		8749	8801	8854	8907	8959	9012	9064	9117	9169	9222	
59		9275	9327	9380	9432	9485	9538	9590	9643	9695	9748	
8260		9800	9853	9906	9958	0011	0063	0116	0169	0221	0274	
61	917	0326	0379	0431	0484	0537	0589	0642	0694	0747	0799	
62		0852	0904	0957	1010	1062	1115	1167	1220	1272	1325	
63		1378	1430	1483	1535	1588	1640	1693	1745	1798	1851	525
64		1903	1956	2008	2061	2113	2166	2218	2271	2323	2376	
65		2429	2481	2534	2586	2639	2691	2744	2796	2849	2901	
66		2954	3007	3059	3112	3164	3217	3269	3322	3374	3427	
67		3479	3532	3584	3637	3690	3742	3795	3847	3900	3952	
68		4005	4057	4110	4162	4215	4267	4320	4372	4425	4477	
69		4530	4582	4635	4687	4740	4793	4845	4898	4950	5003	
8270		5055	5108	5160	5213	5265	5318	5370	5423	5475	5528	
71		5580	5633	5685	5738	5790	5843	5895	5948	6000	6052	
72		6105	6158	6210	6263	6315	6368	6420	6473	6525	6578	
73		6630	6683	6735	6788	6840	6893	6945	6998	7050	7103	
74		7155	7208	7260	7313	7365	7418	7470	7523	7575	7628	
75		7680	7733	7785	7837	7890	7942	7995	8047	8100	8152	
76		8205	8257	8310	8362	8415	8467	8520	8572	8625	8677	
77		8730	8782	8834	8887	8939	8992	9044	9097	9149	9202	
78		9254	9307	9359	9412	9464	9517	9569	9621	9674	9726	
79		9779	9831	9884	9936	9989	0041	0094	0146	0198	0251	
8280	918	0303	0356	0408	0461	0513	0566	0618	0671	0723	0775	524
81		0828	0880	0933	0985	1038	1090	1143	1195	1247	1300	
82		1352	1405	1457	1510	1562	1614	1667	1719	1772	1824	
83		1877	1929	1981	2034	2086	2139	2191	2244	2296	2348	
84		2401	2453	2506	2558	2611	2663	2715	2768	2820	2873	
85		2925	2978	3030	3082	3135	3187	3240	3292	3344	3397	
86		3449	3502	3554	3607	3659	3711	3764	3816	3869	3921	
87		3973	4026	4078	4131	4183	4235	4288	4340	4393	4445	
88		4497	4550	4602	4655	4707	4759	4812	4864	4917	4969	
89		5021	5074	5126	5179	5231	5283	5336	5388	5441	5493	
8290		5545	5598	5650	5702	5755	5807	5860	5912	5964	6017	525
91		6069	6122	6174	6226	6279	6331	6383	6436	6488	6541	1-5
92		6593	6645	6698	6750	6802	6855	6907	6960	7012	7064	2-10
93		7117	7169	7221	7274	7326	7378	7431	7483	7536	7588	3-16
94		7640	7693	7745	7797	7850	7902	7954	8007	8059	8112	4-21
95		8164	8216	8269	8321	8373	8426	8478	8530	8583	8635	5-26
96		8687	8740	8792	8844	8897	8949	9002	9054	9106	9159	6-31
97		9211	9263	9316	9368	9420	9473	9525	9577	9630	9682	7-37
98		9734	9787	9839	9891	9944	9996	0048	0101	0153	0205	8-42
99	919	0258	0310	0362	0414	0467	0519	0572	0624	0676	0729	9-47
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 83000. L. 919.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8300	919.0781	0833	0886	0938	0990	1043	1095	1147	1200	1252		
01	1304	1356	1409	1451	1513	1566	1618	1670	1723	1775		
02	1827	1880	1932	1984	2037	2089	2141	2193	2246	2298		
03	2350	2403	2455	2507	2560	2612	2664	2717	2769	2821		
04	2873	2926	2978	3030	3083	3135	3187	3239	3292	3344		
05	3396	3449	3501	3553	3606	3658	3710	3762	3815	3867		
06	3919	3972	4024	4076	4128	4181	4233	4285	4338	4390		
07	4442	4494	4547	4599	4651	4703	4756	4808	4860	4913		
08	4965	5017	5069	5122	5174	5226	5279	5331	5383	5435		
09	5488	5540	5592	5644	5697	5749	5801	5853	5906	5958		
8310	6010	6062	6115	6167	6219	6272	6324	6376	6428	6481		
11	6533	6585	6637	6690	6742	6794	6846	6899	6951	7003		
12	7055	7108	7160	7212	7264	7317	7369	7421	7473	7526	522	
13	7578	7630	7682	7735	7787	7839	7891	7943	7996	8048		
14	8100	8152	8205	8257	8309	8361	8414	8466	8518	8570		
15	8623	8675	8727	8779	8831	8884	8936	8988	9040	9093		
16	9145	9197	9249	9301	9354	9406	9458	9510	9563	9615		
17	9667	9719	9771	9824	9876	9928	9980	0033	0085	0137		
18	920.0189	0241	0294	0346	0398	0450	0502	0555	0607	0659		
19	0711	0763	0816	0868	0920	0972	1024	1077	1129	1181		
8320	1233	1285	1338	1390	1442	1494	1546	1599	1651	1703		
21	1755	1807	1860	1912	1964	2016	2068	2121	2173	2225		
22	2277	2329	2381	2434	2486	2538	2590	2642	2695	2747		
23	2799	2851	2903	2955	3008	3060	3112	3164	3216	3269		
24	3321	3373	3425	3477	3529	3582	3634	3686	3738	3790		
25	3842	3895	3947	3999	4051	4103	4155	4208	4260	4312		
26	4364	4416	4468	4521	4573	4625	4677	4729	4781	4833		
27	4886	4938	4990	5042	5094	5146	5199	5251	5303	5355		
28	5407	5459	5511	5564	5616	5668	5720	5772	5824	5876	521	
29	5929	5981	6033	6085	6137	6189	6241	6294	6346	6398		
8330	6450	6502	6554	6606	6659	6711	6763	6815	6867	6919		52
31	6971	7023	7076	7128	7180	7232	7284	7336	7388	7440		1-5
32	7493	7545	7597	7649	7701	7753	7805	7857	7910	7962		2-10
33	8014	8066	8118	8170	8222	8274	8327	8379	8431	8483		3-16
34	8535	8587	8639	8691	8743	8796	8848	8900	8952	9004		4-21
35	9056	9108	9160	9212	9264	9317	9369	9421	9473	9525		5-26
36	9577	9629	9681	9733	9785	9838	9890	9942	9994	0046		6-31
37	921.0098	0150	0202	0254	0306	0358	0411	0463	0515	0567		7-36
38	0619	0671	0723	0775	0827	0879	0931	0983	1036	1088		8-42
39	1140	1192	1244	1296	1348	1400	1452	1504	1556	1608		9-47
8340	1661	1713	1765	1817	1869	1921	1973	2025	2077	2129		
41	2181	2233	2285	2337	2389	2442	2494	2546	2598	2650		
42	2702	2754	2806	2858	2910	2962	3014	3066	3118	3170		
43	3222	3274	3327	3379	3431	3483	3535	3587	3639	3691		
44	3743	3795	3847	3899	3951	4003	4055	4107	4159	4211	52	
45	4263	4315	4367	4420	4472	4524	4576	4628	4680	4732		
46	4784	4836	4888	4940	4992	5044	5096	5148	5200	5252		
47	5304	5356	5408	5460	5512	5564	5616	5668	5720	5772		
48	5824	5876	5928	5980	6032	6084	6137	6189	6241	6293		
49	6345	6397	6449	6501	6553	6605	6657	6709	6761	6813		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 83500. L. 921

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8350	921.6865	6917	6969	7021	7073	7125	7177	7229	7281	7333		
51	7385	7437	7489	7541	7593	7645	7697	7749	7801	7853		
52	7905	7957	8009	8061	8113	8165	8217	8269	8321	8373		
53	8425	8477	8529	8581	8633	8685	8737	8789	8841	8893		
54	8945	8997	9049	9101	9153	9205	9257	9309	9361	9413		
55	9465	9517	9569	9620	9672	9724	9776	9828	9880	9932		
56	9984	0036	0088	0140	0192	0244	0296	0348	0400	0452		
57	922.0504	0556	0608	0660	0712	0764	0816	0868	0920	0972		
58	1024	1076	1128	1180	1232	1283	1335	1387	1439	1491		
59	1543	1595	1647	1699	1751	1803	1855	1907	1959	2011		
8360	2063	2115	2167	2219	2271	2323	2374	2426	2478	2530	51.9	
61	2582	2634	2686	2738	2790	2842	2894	2946	2998	3050		
62	3102	3154	3206	3257	3309	3361	3413	3465	3517	3569		
63	3621	3673	3725	3777	3829	3881	3933	3984	4036	4088		
64	4140	4192	4244	4296	4348	4400	4452	4504	4556	4608		
65	4659	4711	4763	4815	4867	4919	4971	5023	5075	5127		
66	5179	5231	5282	5334	5386	5438	5490	5542	5594	5646		
67	5698	5750	5801	5853	5905	5957	6009	6061	6113	6165		
68	6217	6269	6321	6372	6424	6476	6528	6580	6632	6684		
69	6736	6788	6839	6891	6943	6995	7047	7099	7151	7203		
8370	7255	7306	7358	7410	7462	7514	7566	7618	7670	7722		
71	7773	7825	7877	7929	7981	8033	8085	8137	8188	8240		
72	8292	8344	8396	8448	8500	8552	8603	8655	8707	8759		
73	8811	8863	8915	8967	9018	9070	9122	9174	9226	9278		
74	9330	9381	9433	9485	9537	9589	9641	9693	9744	9796		
75	9848	9900	9952	0004	0056	0107	0159	0211	0263	0315		
76	923.0367	0419	0470	0522	0574	0626	0678	0730	0781	0833	51.8	
77	0885	0937	0989	1041	1093	1144	1196	1248	1300	1352		
78	1404	1455	1507	1559	1611	1663	1715	1766	1818	1870		
79	1922	1974	2026	2077	2129	2181	2232	2285	2337	2388		
8380	2440	2492	2544	2596	2647	2699	2751	2803	2855	2907		
81	2958	3010	3062	3114	3166	3217	3269	3321	3373	3425		
82	3477	3528	3580	3632	3684	3736	3787	3839	3891	3943		
83	3995	4046	4098	4150	4202	4254	4305	4357	4409	4461		
84	4513	4564	4616	4668	4720	4772	4823	4875	4927	4979		
85	5031	5082	5134	5186	5238	5290	5341	5393	5445	5497		
86	5549	5600	5652	5704	5756	5808	5859	5911	5963	6015		
87	6066	6118	6170	6222	6274	6325	6377	6429	6481	6532		
88	6584	6636	6688	6740	6791	6843	6895	6947	6998	7050		
89	7102	7154	7205	7257	7309	7361	7413	7464	7516	7568		
8390	7620	7671	7723	7775	7827	7878	7930	7982	8034	8085		
91	8137	8189	8241	8292	8344	8396	8448	8499	8551	8603		
92	8655	8707	8758	8810	8862	8913	8965	9017	9069	9120	51.7	
93	9172	9224	9276	9327	9379	9431	9483	9534	9586	9638		
94	9690	9741	9793	9845	9897	9948	0000	0052	0104	0155		
95	924.0207	0259	0310	0362	0414	0466	0517	0569	0621	0673		
96	0724	0776	0828	0879	0931	0983	1035	1086	1138	1190		
97	1242	1293	1345	1397	1448	1500	1552	1604	1655	1707		
98	1759	1810	1862	1914	1966	2017	2069	2121	2172	2224		
99	2276	2328	2379	2431	2483	2534	2586	2638	2689	2741		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 84000. L. 924.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D. Pts.
8400	24. 2793	2845	2896	2948	3000	3051	3103	3155	3206	3258	51-5
01	3310	3362	3413	3465	3517	3568	3620	3672	3723	3775	1-5
02	3827	3878	3930	3982	4034	4085	4137	4189	4240	4292	2-10
03	4344	4395	4447	4499	4550	4602	4654	4705	4757	4809	3-15
04	4860	4912	4964	5015	5067	5119	5170	5222	5274	5326	4-21
05	5377	5429	5481	5532	5584	5636	5687	5739	5791	5842	5-26
06	5894	5946	5997	6049	6101	6152	6204	6255	6307	6359	6-31
07	6410	6462	6514	6565	6617	6669	6720	6772	6824	6875	7-36
08	6927	6979	7030	7082	7134	7185	7237	7289	7340	7392	8-41
09	7444	7495	7547	7598	7650	7702	7753	7805	7857	7908	9-46
8410	7960	8012	8063	8115	8167	8218	8270	8321	8373	8425	
11	8476	8528	8580	8631	8683	8734	8786	8838	8889	8941	
12	8993	9044	9096	9148	9199	9251	9302	9354	9406	9457	
13	9509	9561	9612	9664	9715	9767	9819	9870	9922	9973	
14	25. 0025	0077	0128	0180	0232	0283	0335	0386	0438	0490	
15	0541	0593	0644	0696	0748	0799	0851	0902	0954	1006	
16	1057	1109	1160	1212	1264	1315	1367	1418	1470	1522	
17	1573	1625	1676	1728	1780	1831	1883	1934	1986	2038	
18	2089	2141	2192	2244	2296	2347	2399	2450	2502	2554	
19	2605	2657	2708	2760	2811	2863	2915	2966	3018	3069	
8420	3121	3172	3224	3276	3327	3379	3430	3482	3534	3585	
21	3637	3688	3740	3791	3843	3895	3946	3998	4049	4101	
22	4152	4204	4256	4307	4359	4410	4462	4513	4565	4616	
23	4668	4720	4771	4823	4874	4926	4977	5029	5080	5132	
24	5184	5235	5287	5338	5390	5441	5493	5544	5596	5648	
25	5699	5751	5802	5854	5905	5957	6008	6060	6111	6163	51-5
26	6215	6266	6318	6369	6421	6472	6524	6575	6627	6678	
27	6730	6781	6833	6885	6936	6988	7039	7091	7142	7194	
28	7245	7297	7348	7400	7451	7503	7554	7606	7657	7709	
29	7761	7812	7864	7915	7967	8018	8070	8121	8173	8224	
8430	8276	8327	8379	8430	8482	8533	8585	8636	8688	8739	
31	8791	8842	8894	8945	8997	9048	9100	9151	9203	9254	
32	9306	9357	9409	9460	9512	9563	9615	9667	9718	9770	
33	9821	9873	9924	9975	0027	0078	0130	0181	0233	0284	
34	26. 0335	0387	0439	0490	0542	0593	0645	0696	0748	0799	
35	0851	0902	0954	1005	1057	1108	1160	1211	1263	1314	
36	1366	1417	1469	1520	1572	1623	1675	1726	1778	1829	
37	1880	1932	1983	2035	2086	2138	2189	2241	2292	2344	
38	2395	2447	2498	2550	2601	2653	2704	2755	2807	2858	
39	2910	2961	3013	3064	3116	3167	3219	3270	3322	3373	
8440	3424	3476	3527	3579	3630	3682	3733	3785	3836	3888	
41	3939	3990	4042	4093	4145	4196	4248	4299	4351	4402	51-4
42	4453	4505	4556	4608	4659	4711	4762	4814	4865	4916	
43	4968	5019	5071	5122	5174	5225	5277	5328	5379	5431	
44	5482	5534	5585	5637	5688	5739	5791	5842	5894	5945	
45	5997	6048	6099	6151	6202	6254	6305	6357	6408	6459	
46	6511	6562	6614	6665	6716	6768	6819	6871	6922	6974	
47	7025	7076	7128	7179	7231	7282	7333	7385	7436	7488	
48	7539	7590	7642	7693	7745	7796	7847	7899	7950	8002	
49	8053	8105	8156	8207	8259	8310	8362	8413	8464	8516	
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8450	926	8567	8618	8670	8721	8773	8824	8875	8927	8978	9030	
51		9081	9132	9184	9235	9287	9338	9389	9441	9492	9543	
52		9595	9646	9698	9749	9800	9852	9903	9955	0006	0057	
53	927	0109	0160	0211	0263	0314	0366	0417	0468	0520	0571	
54		0622	0674	0725	0777	0828	0879	0931	0982	1033	1085	
55		1136	1187	1239	1290	1342	1393	1444	1496	1547	1598	
56		1650	1701	1752	1804	1855	1907	1958	2009	2061	2112	
57		2163	2215	2266	2317	2369	2420	2471	2523	2574	2625	
58		2677	2728	2780	2831	2882	2934	2985	3036	3088	3139	51.3
59		3190	3242	3293	3344	3396	3447	3498	3550	3601	3652	
8460		3704	3755	3806	3858	3909	3960	4012	4063	4114	4166	
61		4217	4268	4320	4371	4422	4474	4525	4576	4628	4679	
62		4730	4782	4833	4884	4935	4987	5038	5089	5141	5192	
63		5243	5295	5346	5397	5449	5500	5551	5603	5654	5705	
64		5757	5808	5859	5910	5962	6013	6064	6116	6167	6218	
65		6270	6321	6372	6424	6475	6526	6577	6629	6680	6731	
66		6783	6834	6885	6937	6988	7039	7090	7142	7193	7244	
67		7296	7347	7398	7449	7501	7552	7603	7655	7706	7757	
68		7808	7860	7911	7962	8014	8065	8116	8167	8219	8270	
69		8321	8373	8424	8475	8526	8578	8629	8680	8732	8783	
8470		8834	8885	8937	8988	9039	9090	9142	9193	9244	9296	
71		9347	9398	9449	9501	9552	9603	9654	9706	9757	9808	
72		9859	9911	9962	0013	0065	0116	0167	0218	0270	0321	
73	928	0372	0423	0475	0526	0577	0628	0680	0731	0782	0833	
74		0885	0936	0987	1038	1090	1141	1192	1243	1295	1346	51.2
75		1397	1448	1500	1551	1602	1653	1705	1756	1807	1858	
76		1909	1961	2012	2063	2114	2166	2217	2268	2319	2371	
77		2422	2473	2524	2576	2627	2678	2729	2780	2832	2883	
78		2934	2985	3037	3088	3139	3190	3241	3293	3344	3395	
79		3446	3498	3549	3600	3651	3702	3754	3805	3856	3907	
8480		3959	4010	4061	4112	4163	4215	4266	4317	4368	4419	
81		4471	4522	4573	4624	4675	4727	4778	4829	4880	4931	
82		4983	5034	5085	5136	5187	5239	5290	5341	5392	5443	
83		5495	5546	5597	5648	5699	5751	5802	5853	5904	5955	
84		6007	6058	6109	6160	6211	6263	6314	6365	6416	6467	
85		6518	6570	6621	6672	6723	6774	6826	6877	6928	6979	
86		7030	7081	7133	7184	7235	7286	7337	7389	7440	7491	
87		7542	7593	7644	7696	7747	7798	7849	7900	7951	8003	
88		8054	8105	8156	8207	8258	8310	8361	8412	8463	8514	
89		8565	8616	8668	8719	8770	8821	8872	8923	8975	9026	
8490		9077	9128	9179	9230	9282	9333	9384	9435	9486	9537	
91		9588	9640	9691	9742	9793	9844	9895	9946	9998	0049	51.1
92	929	0100	0151	0202	0253	0304	0356	0407	0458	0509	0560	1-5
93		0611	0662	0714	0765	0816	0867	0918	0969	1020	1071	2-10
94		1123	1174	1225	1276	1327	1378	1429	1480	1532	1583	3-15
95		1634	1685	1736	1787	1838	1889	1941	1992	2043	2094	4-20
96		2145	2196	2247	2298	2350	2401	2452	2503	2554	2605	5-25
97		2656	2707	2758	2810	2861	2912	2963	3014	3065	3116	6-31
98		3167	3218	3269	3321	3372	3423	3474	3525	3576	3627	7-36
99		3678	3729	3780	3832	3883	3934	3985	4036	4087	4138	8-41
												9-46
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8500	929.4189	4240	4291	4343	4394	4445	4496	4547	4598	4649		
01	4700	4751	4802	4853	4905	4956	5007	5058	5109	5160		
02	5211	5262	5313	5364	5415	5466	5517	5568	5620	5671		
03	5722	5773	5824	5875	5926	5977	6028	6079	6130	6181		
04	6233	6284	6335	6386	6437	6488	6539	6590	6641	6692		
05	6743	6794	6845	6896	6947	6998	7050	7101	7152	7203		
06	7254	7305	7356	7407	7458	7509	7560	7611	7662	7713		
07	7764	7815	7866	7917	7969	8020	8071	8122	8173	8224	51	
08	8275	8326	8377	8428	8479	8530	8581	8632	8683	8734		
09	8785	8836	8887	8938	8989	9040	9091	9142	9193	9245		
8510	9296	9347	9398	9449	9500	9551	9602	9653	9704	9755		51
11	9806	9857	9908	9959	0010	0061	0112	0163	0214	0265		1-51
12	930.0316	0367	0418	0469	0520	0571	0622	0673	0724	0775		2-10
13	0826	0877	0928	0979	1030	1081	1132	1183	1234	1285		3-15
14	1336	1387	1438	1489	1540	1591	1643	1694	1745	1796		4-20
15	1847	1898	1949	2000	2051	2102	2153	2204	2255	2306		5-25
16	2357	2408	2459	2510	2561	2612	2663	2713	2764	2815		6-31
17	2866	2917	2968	3019	3070	3121	3172	3223	3274	3325		7-36
18	3376	3427	3478	3529	3580	3631	3682	3733	3784	3835		8-41
19	3886	3937	3988	4039	4090	4141	4192	4243	4294	4345		9-46
8520	4396	4447	4498	4549	4600	4651	4702	4753	4804	4855		
21	4906	4957	5008	5059	5110	5160	5211	5262	5313	5364		
22	5415	5466	5517	5568	5619	5670	5721	5772	5823	5874		
23	5925	5976	6027	6078	6129	6180	6231	6282	6333	6384		
24	6434	6485	6536	6587	6638	6689	6740	6791	6842	6893	50.9	
25	6944	6995	7046	7097	7148	7199	7250	7300	7351	7402		
26	7453	7504	7555	7606	7657	7708	7759	7810	7861	7912		
27	7963	8014	8064	8115	8166	8217	8268	8319	8370	8421		
28	8472	8523	8574	8625	8676	8727	8777	8828	8879	8930		
29	8981	9032	9083	9134	9185	9236	9287	9338	9389	9440		
8530	9490	9541	9592	9643	9694	9745	9796	9847	9898	9949		
31	9999	0050	0101	0152	0203	0254	0305	0356	0407	0458		
32	931.0508	0559	0610	0661	0712	0763	0814	0865	0916	0967		
33	1017	1068	1119	1170	1221	1272	1323	1374	1425	1475		
34	1526	1577	1628	1679	1730	1781	1832	1883	1933	1984		
35	2035	2086	2137	2188	2239	2290	2341	2391	2442	2493		
36	2544	2595	2646	2697	2748	2798	2849	2900	2951	3002		
37	3053	3104	3155	3205	3256	3307	3358	3409	3460	3511		
38	3562	3612	3663	3714	3765	3816	3867	3918	3968	4019		
39	4070	4121	4172	4223	4274	4324	4375	4426	4477	4528		
8540	4579	4630	4680	4731	4782	4833	4884	4935	4986	5036		
41	5087	5138	5189	5240	5291	5341	5392	5443	5494	5545	50.8	
42	5596	5647	5697	5748	5799	5850	5901	5952	6002	6053		
43	6104	6155	6206	6257	6307	6358	6409	6460	6511	6562		
44	6612	6663	6714	6765	6816	6867	6917	6968	7019	7070		
45	7121	7171	7222	7273	7324	7375	7426	7476	7527	7578		
46	7629	7680	7731	7781	7832	7883	7934	7985	8035	8086		
47	8137	8188	8239	8289	8340	8391	8442	8493	8544	8594		
48	8645	8696	8747	8798	8848	8899	8950	9001	9052	9102		
49	9153	9204	9255	9306	9356	9407	9458	9509	9560	9610		
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8550	931.9661	9712	9763	9814	9864	9915	9966	0017	0067	0118			
51	932.0169	0220	0271	0321	0372	0423	0474	0525	0575	0626			
52	0677	0728	0778	0829	0880	0931	0982	1032	1083	1134			
53	1185	1235	1286	1337	1388	1439	1489	1540	1591	1642			
54	1692	1743	1794	1845	1896	1946	1997	2048	2099	2149			
55	2200	2251	2302	2352	2403	2454	2505	2555	2606	2657			
56	2708	2759	2809	2860	2911	2962	3012	3063	3114	3165			
57	3215	3266	3317	3368	3418	3469	3520	3571	3621	3672			
58	3723	3774	3824	3875	3926	3977	4027	4078	4129	4180	50.7		
59	4230	4281	4332	4382	4433	4484	4535	4585	4636	4687			
560	4738	4788	4839	4890	4941	4991	5042	5093	5144	5194			
61	5245	5296	5346	5397	5448	5499	5549	5600	5651	5702			
62	5752	5803	5854	5904	5955	6006	6057	6107	6158	6209			
63	6259	6310	6361	6412	6462	6513	6564	6614	6665	6716			
64	6767	6817	6868	6919	6969	7020	7071	7122	7172	7223			
65	7274	7324	7375	7426	7476	7527	7578	7629	7679	7730			
66	7781	7831	7882	7933	7983	8034	8085	8136	8186	8237			
67	8288	8338	8389	8440	8490	8541	8592	8643	8693	8744			
68	8795	8845	8896	8947	8997	9048	9099	9149	9200	9251			
69	9301	9352	9403	9453	9504	9555	9606	9656	9707	9758			
570	9808	9859	9910	9960	0011	0062	0112	0163	0214	0264			
71	933.0315	0366	0416	0467	0518	0568	0619	0670	0720	0771			
72	0822	0872	0923	0974	1024	1075	1126	1176	1227	1278			
73	1328	1379	1430	1480	1531	1582	1632	1683	1733	1784			
74	1835	1885	1936	1987	2037	2088	2139	2189	2240	2291	50.6		
75	2341	2392	2443	2493	2544	2595	2645	2696	2746	2797			
76	2848	2898	2949	3000	3050	3101	3152	3202	3253	3303			
77	3354	3405	3455	3506	3557	3607	3658	3709	3759	3810			
78	3860	3911	3962	4012	4063	4114	4164	4215	4265	4316			
79	4367	4417	4468	4519	4569	4620	4670	4721	4772	4822			
8580	4873	4923	4974	5025	5075	5126	5177	5227	5278	5328			
81	5379	5430	5480	5531	5581	5632	5683	5733	5784	5834			
82	5885	5936	5986	6037	6088	6138	6189	6239	6290	6341			
83	6391	6442	6492	6543	6594	6644	6695	6745	6796	6846			
84	6897	6948	6998	7049	7099	7150	7201	7251	7302	7352			
85	7403	7454	7504	7555	7605	7656	7707	7757	7808	7858			
86	7909	7959	8010	8061	8111	8162	8212	8263	8313	8364			
87	8415	8465	8516	8566	8617	8668	8718	8769	8819	8870			
88	8920	8971	9021	9072	9123	9173	9224	9274	9325	9375			
89	9426	9477	9527	9578	9628	9679	9729	9780	9831	9881			
8590	9932	9982	0033	0083	0134	0184	0235	0286	0336	0387	50.5		
91	934.0437	0488	0538	0589	0639	0690	0740	0791	0842	0892	50.5	1-5	
92	0943	0993	1044	1094	1145	1195	1246	1296	1347	1398		2-10	
93	1448	1499	1549	1600	1650	1701	1751	1802	1852	1903		3-15	
94	1953	2004	2055	2105	2156	2206	2257	2307	2358	2408		4-20	
95	2459	2509	2560	2610	2661	2711	2762	2812	2863	2914		5-25	
96	2964	3015	3065	3116	3166	3217	3267	3318	3368	3419		6-30	
97	3469	3520	3570	3621	3671	3722	3772	3823	3873	3924		7-35	
98	3974	4025	4075	4126	4176	4227	4277	4328	4378	4429		8-40	
99	4479	4530	4580	4631	4682	4732	4783	4833	4884	4934		9-45	
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N.86000. L.934

Logarithms

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8600	934.4985	5035	5086	5136	5187	5237	5287	5338	5388	5439		50-5
01	5489	5540	5590	5641	5691	5742	5792	5843	5893	5944		1-5
02	5994	6045	6095	6146	6196	6247	6297	6348	6398	6449		2-10
03	6499	6550	6600	6651	6701	6752	6802	6853	6903	6954		3-15
04	7004	7054	7105	7155	7206	7256	7307	7357	7408	7458		4-20
05	7509	7559	7610	7660	7711	7761	7812	7862	7912	7963		5-25
06	8013	8064	8114	8165	8215	8266	8316	8367	8417	8468		6-30
07	8518	8568	8619	8669	8720	8770	8821	8871	8922	8972		7-35
08	9023	9073	9123	9174	9224	9275	9325	9376	9426	9477		8-40
09	9527	9578	9628	9678	9729	9779	9830	9880	9931	9981		9-45
8610	935.0032	0082	0132	0183	0233	0284	0334	0385	0435	0485		
11	0536	0586	0637	0687	0738	0788	0838	0889	0939	0990		
12	1040	1091	1141	1191	1242	1292	1343	1393	1444	1494		
13	1544	1595	1645	1696	1746	1797	1847	1897	1948	1998		
14	2049	2099	2150	2200	2250	2301	2351	2402	2452	2502		
15	2553	2603	2654	2704	2754	2805	2855	2906	2956	3006		
16	3057	3107	3158	3208	3259	3309	3359	3410	3460	3511		
17	3561	3611	3662	3712	3763	3813	3863	3914	3964	4015		
18	4065	4115	4166	4216	4266	4317	4367	4418	4468	4518		
19	4569	4619	4670	4720	4770	4821	4871	4922	4972	5022		
8620	5073	5123	5173	5224	5274	5325	5375	5425	5476	5526		
21	5576	5627	5677	5728	5778	5828	5879	5929	5979	6030		
22	6080	6131	6181	6231	6282	6332	6382	6433	6483	6533		
23	6584	6634	6685	6735	6785	6836	6886	6936	6987	7037		
24	7087	7138	7188	7239	7289	7339	7390	7440	7490	7541		
25	7591	7641	7692	7742	7792	7843	7893	7943	7994	8044		
26	8095	8145	8195	8246	8296	8346	8397	8447	8497	8548	50-3	
27	8598	8648	8699	8749	8799	8850	8900	8950	9001	9051		
28	9101	9152	9202	9252	9303	9353	9403	9454	9504	9554		
29	9605	9655	9705	9756	9806	9856	9907	9957	0007	0058		
8630	936.0108	0158	0209	0259	0309	0360	0410	0460	0511	0561		
31	0611	0661	0712	0762	0812	0863	0913	0963	1014	1064		
32	1114	1165	1215	1265	1316	1366	1416	1466	1517	1567		
33	1617	1668	1718	1768	1819	1869	1919	1970	2020	2070		
34	2120	2171	2221	2271	2322	2372	2422	2473	2523	2573		
35	2623	2674	2724	2774	2825	2875	2925	2975	3026	3076		
36	3126	3177	3227	3277	3327	3378	3428	3478	3529	3579		
37	3629	3679	3730	3780	3830	3881	3931	3981	4031	4082		
38	4132	4182	4233	4283	4333	4383	4434	4484	4534	4584		
39	4635	4685	4735	4786	4836	4886	4936	4987	5037	5087		
8640	5137	5188	5238	5288	5338	5389	5439	5489	5540	5590		
41	5640	5690	5741	5791	5841	5891	5942	5992	6042	6092		
42	6143	6193	6243	6293	6344	6394	6444	6494	6545	6595		
43	6645	6695	6746	6796	6846	6896	6947	6997	7047	7097	50-2	
44	7148	7198	7248	7298	7349	7399	7449	7499	7550	7600		
45	7650	7700	7750	7801	7851	7901	7951	8002	8052	8102		
46	8152	8203	8253	8303	8353	8403	8454	8504	8554	8604		
47	8655	8705	8755	8805	8855	8906	8956	9006	9056	9107		
48	9157	9207	9257	9307	9358	9408	9458	9508	9559	9609		
49	9659	9709	9759	9810	9860	9910	9960	0010	0061	0111		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N.86500-L.93

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
8650	937	0161	0211	0251	0312	0352	0412	0452	0513	0563	0613	
51	0663	0713	0764	0814	0864	0914	0964	1015	1065	1115		
52	1165	1215	1255	1316	1366	1415	1466	1516	1567	1617		
53	1667	1717	1767	1818	1868	1918	1968	2018	2069	2119		
54	2169	2219	2269	2319	2370	2420	2470	2520	2570	2621		
55	2671	2721	2771	2821	2871	2922	2972	3022	3072	3122		
56	3172	3223	3273	3323	3373	3423	3474	3524	3574	3624		
57	3674	3724	3775	3825	3875	3925	3975	4025	4075	4126		
58	4176	4226	4276	4326	4376	4427	4477	4527	4577	4627		
59	4677	4728	4778	4828	4878	4928	4978	5028	5079	5129		
8660	5179	5229	5279	5329	5380	5430	5480	5530	5580	5630	501	
61	5680	5731	5781	5831	5881	5931	5981	6031	6082	6132		
62	6182	6232	6282	6332	6382	6432	6483	6533	6583	6633		
63	6683	6733	6783	6834	6884	6934	6984	7034	7084	7134		
64	7184	7235	7285	7335	7385	7435	7485	7535	7585	7636		
65	7686	7736	7786	7836	7886	7936	7986	8036	8087	8137		
66	8187	8237	8287	8337	8387	8437	8488	8538	8588	8638		
67	8688	8738	8788	8838	8888	8939	8989	9039	9089	9139		
68	9189	9239	9289	9339	9389	9440	9490	9540	9590	9640		
69	9690	9740	9790	9840	9890	9941	9991	0041	0091	0141		
8670	938	0191	0241	0291	0341	0391	0441	0492	0542	0592	0642	
71	0692	0742	0792	0842	0892	0942	0992	1042	1093	1143		
72	1193	1243	1293	1343	1393	1443	1493	1543	1593	1643		
73	1693	1744	1794	1844	1894	1944	1994	2044	2094	2144		
74	2194	2244	2294	2344	2394	2445	2495	2545	2595	2645		
75	2695	2745	2795	2845	2895	2945	2995	3045	3095	3145		
76	3195	3245	3295	3346	3396	3446	3496	3546	3596	3646		
77	3696	3746	3796	3846	3896	3946	3996	4046	4096	4146	50	
78	4196	4247	4297	4347	4397	4447	4497	4547	4597	4647		
79	4697	4747	4797	4847	4897	4947	4997	5047	5097	5147		
8680	5197	5247	5297	5347	5397	5447	5497	5547	5598	5648		50
81	5698	5748	5798	5848	5898	5948	5998	6048	6098	6148		1-1
82	6198	6248	6298	6348	6398	6448	6498	6548	6598	6648		2-1
83	6698	6748	6798	6848	6898	6948	6998	7048	7098	7148		3-1
84	7198	7248	7298	7348	7398	7448	7498	7548	7598	7648		4-2
85	7698	7748	7798	7848	7898	7948	7998	8048	8098	8148		5-2
86	8198	8248	8298	8348	8398	8448	8498	8548	8598	8648		6-3
87	8698	8748	8798	8848	8898	8948	8998	9048	9098	9148		7-3
88	9198	9248	9298	9348	9398	9448	9498	9548	9598	9648		8-4
89	9698	9748	9798	9848	9898	9948	9998	0048	0098	0148		9-4
8690	939	0198	0248	0298	0348	0398	0448	0498	0548	0598	0648	
91	0697	0747	0797	0847	0897	0947	0997	1047	1097	1147		
92	1197	1247	1297	1347	1397	1447	1497	1547	1597	1647		
93	1697	1747	1797	1847	1897	1947	1997	2046	2096	2146		
94	2196	2246	2296	2346	2396	2446	2496	2546	2596	2646		
95	2696	2746	2796	2846	2896	2946	2996	3045	3095	3145	49-9	
96	3195	3245	3295	3345	3395	3445	3495	3545	3595	3645		
97	3695	3745	3795	3845	3894	3944	3994	4044	4094	4144		
98	4194	4244	4294	4344	4394	4444	4494	4544	4593	4643		
99	4693	4743	4793	4843	4893	4943	4993	5043	5093	5143		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts

X

N. 87000. L. 939.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8700	939	5193	5242	5292	5342	5392	5442	5492	5542	5592	5642	50
01		5692	5742	5792	5841	5891	5941	5991	6041	6091	6141	1-5
02		6191	6241	6291	6341	6390	6440	6490	6540	6590	6640	2-10
03		6690	6740	6790	6840	6889	6939	6989	7039	7089	7139	3-15
04		7189	7239	7289	7339	7388	7438	7488	7538	7588	7638	4-20
05		7688	7738	7788	7837	7887	7937	7987	8037	8087	8137	5-25
06		8187	8237	8286	8336	8386	8436	8486	8536	8586	8636	6-30
07		8685	8735	8785	8835	8885	8935	8985	9035	9084	9134	7-35
08		9184	9234	9284	9334	9384	9434	9483	9533	9583	9633	8-40
09		9683	9733	9783	9833	9882	9932	9982	0032	0082	0132	9-45
8710	940	0182	0231	0281	0331	0381	0431	0481	0531	0580	0630	
11		0680	0730	0780	0830	0880	0929	0979	1029	1079	1129	
12		1179	1229	1278	1328	1378	1428	1478	1528	1577	1627	49.8
13		1677	1727	1777	1827	1877	1926	1976	2026	2076	2126	
14		2176	2225	2275	2325	2375	2425	2475	2524	2574	2624	
15		2674	2724	2774	2823	2873	2923	2973	3023	3073	3122	
16		3172	3222	3272	3322	3372	3421	3471	3521	3571	3621	
17		3670	3720	3770	3820	3870	3920	3969	4019	4069	4119	
18		4169	4218	4268	4318	4368	4418	4468	4517	4567	4617	
19		4667	4717	4766	4816	4866	4916	4966	5015	5065	5115	
8720		5165	5215	5264	5314	5364	5414	5464	5513	5563	5613	
21		5663	5713	5762	5812	5862	5912	5962	6011	6061	6111	
22		6161	6211	6260	6310	6360	6410	6460	6509	6559	6609	
23		6659	6709	6758	6808	6858	6908	6957	7007	7057	7107	
24		7157	7206	7256	7306	7356	7405	7455	7505	7555	7605	
25		7654	7704	7754	7804	7853	7903	7953	8003	8053	8102	
26		8152	8202	8252	8301	8351	8401	8451	8500	8550	8600	
27		8650	8700	8749	8799	8849	8899	8948	8998	9048	9098	
28		9147	9197	9247	9297	9346	9396	9446	9496	9545	9595	
29		9645	9695	9744	9794	9844	9894	9943	9993	0043	0093	
8730	941	0142	0192	0242	0292	0341	0391	0441	0491	0540	0590	49.7
31		0640	0690	0739	0789	0839	0889	0938	0988	1038	1088	
32		1137	1187	1237	1286	1336	1386	1436	1485	1535	1585	
33		1635	1684	1734	1784	1834	1883	1933	1983	2032	2082	
34		2132	2182	2231	2281	2331	2380	2430	2480	2530	2579	
35		2679	2729	2778	2828	2878	2927	2977	3027	3077	3127	
36		3126	3176	3226	3275	3325	3375	3425	3474	3524	3574	
37		3623	3673	3723	3772	3822	3872	3922	3971	4021	4071	
38		4120	4170	4220	4270	4319	4369	4419	4468	4518	4568	
39		4617	4667	4717	4766	4816	4866	4916	4965	5015	5065	
8740		5164	5214	5263	5313	5363	5412	5462	5512	5562	5612	
41		5611	5661	5711	5760	5810	5860	5909	5959	6009	6058	
42		6108	6158	6207	6257	6307	6356	6406	6456	6505	6555	
43		6605	6654	6714	6754	6803	6853	6903	6952	7002	7052	
44		7101	7151	7201	7250	7300	7350	7399	7449	7499	7548	
45		7598	7648	7697	7747	7797	7847	7896	7946	7995	8045	
46		8095	8144	8194	8244	8293	8343	8393	8442	8492	8542	
47		8591	8641	8691	8740	8790	8840	8889	8939	8988	9038	49.6
48		9088	9137	9187	9237	9286	9336	9386	9435	9485	9535	
49		9584	9634	9683	9733	9783	9832	9882	9932	9981	0031	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 87500. L. 942

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8750	942.0081	0130	0180	0229	0279	0329	0378	0428	0478	0427		
51	0577	0626	0676	0726	0775	0825	0875	0924	0974	1023		
52	1073	1123	1172	1222	1272	1321	1371	1420	1470	1520		
53	1569	1619	1669	1718	1768	1817	1867	1917	1966	2016		
54	2065	2115	2165	2214	2264	2313	2363	2413	2462	2512		
55	2562	2611	2661	2710	2760	2810	2859	2909	2958	3008		
56	3058	3107	3157	3206	3256	3306	3355	3405	3454	3504		
57	3553	3603	3653	3702	3752	3801	3851	3901	3950	4000		
58	4049	4099	4149	4198	4248	4297	4347	4397	4446	4496		
59	4545	4595	4644	4694	4744	4793	4843	4892	4942	4991		
8760	5041	5091	5140	5190	5239	5289	5339	5388	5438	5487		
61	5537	5586	5636	5686	5735	5784	5834	5884	5933	5983		
62	6032	6082	6132	6181	6231	6280	6330	6379	6429	6479		
63	6528	6578	6627	6677	6725	6776	6825	6875	6925	6974		
64	7024	7073	7123	7172	7222	7271	7321	7371	7420	7470		
65	7519	7569	7618	7668	7717	7767	7816	7866	7916	7965	49-5	
66	8015	8064	8114	8163	8213	8262	8312	8361	8411	8461		
67	8510	8560	8609	8659	8708	8758	8807	8857	8906	8956		
68	9005	9055	9104	9154	9204	9253	9303	9352	9402	9451		
69	9501	9550	9600	9649	9699	9748	9798	9847	9897	9946		
8770	9996	0045	0095	0144	0194	0244	0293	0343	0392	0442		49-8
71	943.0491	0541	0590	0640	0689	0739	0788	0838	0887	0937		1-5
72	0986	1036	1085	1135	1184	1234	1283	1333	1382	1432		2-10
73	1481	1531	1580	1630	1679	1729	1778	1828	1877	1927		3-15
74	1976	2026	2075	2125	2174	2224	2273	2323	2372	2422		4-20
75	2471	2521	2570	2620	2669	2719	2768	2818	2867	2917		5-25
76	2966	3016	3065	3115	3164	3214	3263	3313	3362	3412		6-30
77	3461	3510	3560	3609	3659	3708	3758	3807	3857	3906		7-35
78	3956	4005	4055	4104	4154	4203	4253	4302	4352	4401		8-40
79	4450	4500	4549	4599	4648	4698	4747	4797	4846	4896		9-45
8780	4945	4995	5044	5094	5143	5192	5242	5291	5341	5390		
81	5440	5489	5539	5588	5638	5687	5737	5786	5835	5885		
82	5934	5984	6033	6083	6132	6182	6231	6280	6330	6379		
83	6429	6478	6528	6577	6627	6676	6725	6775	6824	6874	49-4	
84	6923	6973	7022	7072	7121	7170	7220	7269	7319	7368		
85	7418	7467	7517	7566	7615	7665	7714	7764	7813	7863		
86	7912	7961	8011	8060	8110	8159	8209	8258	8307	8357		
87	8406	8456	8505	8555	8604	8653	8703	8752	8802	8851		
88	8900	8950	8999	9049	9098	9148	9197	9246	9296	9345		
89	9395	9444	9493	9543	9592	9642	9691	9741	9790	9839		
8790	9889	9938	9988	0037	0086	0136	0185	0235	0284	0333		
91	944.0383	0432	0482	0531	0580	0630	0679	0729	0778	0827		
92	0877	0926	0976	1025	1074	1124	1173	1223	1272	1321		
93	1371	1420	1470	1519	1568	1618	1667	1716	1766	1815		
94	1865	1914	1963	2013	2062	2112	2161	2210	2260	2309		
95	2358	2408	2457	2507	2556	2605	2655	2704	2753	2803		
96	2852	2902	2951	3000	3050	3099	3148	3198	3247	3297		
97	3346	3395	3445	3494	3543	3593	3642	3691	3741	3790		
98	3840	3889	3938	3988	4037	4086	4136	4185	4234	4284		
99	4333	4383	4432	4481	4531	4580	4629	4679	4728	4777		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.

mm	0	1	2	3	4	5	6	7	8	9	D	Pro.
00	944	4827	4876	4925	4975	5024	5073	5123	5172	5222	5271	49-3
01		5323	5370	5419	5468	5518	5567	5616	5665	5715	5764	1-5
02		5814	5863	5912	5962	6011	6060	6110	6159	6208	6258	2-10
03		6307	6356	6406	6455	6504	6554	6603	6652	6702	6751	3-19
04		6800	6850	6899	6948	6998	7047	7096	7146	7195	7244	4-20
05		7294	7343	7392	7442	7491	7540	7590	7639	7688	7737	5-25
06		7787	7836	7885	7935	7984	8033	8083	8132	8181	8231	6-30
07		8280	8329	8379	8428	8477	8527	8576	8625	8674	8724	7-39
08		8773	8822	8872	8921	8970	9020	9069	9118	9167	9217	8-40
09		9266	9315	9365	9414	9463	9513	9562	9611	9660	9710	9-45
10		9759	9808	9858	9907	9956	0006	0055	0104	0153	0203	
11	945	0252	0301	0351	0400	0449	0498	0548	0597	0646	0696	
12		0745	0794	0843	0893	0942	0991	1041	1090	1139	1188	
13		1238	1287	1336	1386	1435	1484	1533	1583	1632	1681	
14		1730	1780	1829	1878	1928	1977	2026	2075	2125	2174	
15		2223	2272	2322	2371	2420	2469	2519	2568	2617	2667	
16		2716	2765	2814	2864	2913	2962	3011	3061	3110	3159	
17		3208	3258	3307	3356	3405	3455	3504	3553	3602	3652	
18		3701	3750	3799	3849	3898	3947	3996	4046	4095	4144	49-2
19		4193	4243	4292	4341	4390	4440	4489	4538	4587	4637	
20		4686	4735	4784	4834	4883	4932	4981	5031	5080	5129	
21		5178	5227	5277	5326	5375	5424	5474	5523	5572	5621	
22		5671	5720	5769	5818	5867	5917	5966	6015	6064	6114	
23		6163	6212	6261	6310	6359	6409	6458	6507	6556	6605	
24		6655	6704	6753	6803	6852	6901	6950	7000	7049	7098	
25		7147	7196	7246	7295	7344	7393	7442	7492	7541	7590	
26		7639	7688	7738	7787	7836	7885	7934	7984	8033	8082	
27		8131	8180	8230	8279	8328	8377	8426	8476	8525	8574	
28		8623	8672	8722	8771	8820	8869	8918	8968	9017	9066	
29		9115	9164	9214	9263	9312	9361	9410	9459	9509	9558	
30		9607	9656	9705	9755	9804	9853	9902	9951	0000	0050	
31	946	0099	0148	0197	0246	0296	0345	0394	0443	0492	0541	
32		0591	0640	0689	0738	0787	0836	0886	0935	0984	1033	
33		1082	1131	1181	1230	1279	1328	1377	1426	1476	1525	
34		1574	1623	1672	1721	1771	1820	1869	1918	1967	2016	
35		2066	2115	2164	2213	2262	2311	2360	2410	2459	2508	
36		2557	2606	2655	2705	2754	2803	2852	2901	2950	2999	49-1
37		3049	3098	3147	3196	3245	3294	3343	3393	3442	3491	
38		3540	3589	3638	3687	3737	3786	3835	3884	3933	3982	
39		4031	4080	4130	4179	4228	4277	4326	4375	4424	4474	
40		4523	4572	4621	4670	4719	4768	4817	4867	4916	4965	
41		5014	5063	5112	5161	5210	5260	5309	5358	5407	5456	
42		5505	5554	5603	5652	5702	5751	5800	5849	5898	5947	
43		5996	6045	6094	6144	6193	6242	6291	6340	6389	6438	
44		6487	6536	6586	6635	6684	6733	6782	6831	6880	6929	
45		6978	7027	7077	7126	7175	7224	7273	7322	7371	7420	
46		7469	7518	7568	7617	7666	7715	7764	7813	7862	7911	
47		7960	8009	8058	8108	8157	8206	8255	8304	8353	8402	
48		8451	8500	8549	8598	8647	8697	8746	8795	8844	8893	
49		8942	8991	9040	9089	9138	9187	9236	9285	9335	9384	
Vum	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8850	946	9433	9482	9531	9580	9629	9678	9727	9776	9825	9874	
51	9923	9972	0022	0071	0120	0169	0218	0267	0316	0365		
52	947	0414	0463	0512	0561	0610	0659	0708	0757	0807	0856	
53	0905	0954	1003	1052	1101	1150	1199	1248	1297	1346		
54	1395	1444	1493	1542	1591	1640	1689	1739	1788	1837	49	
55	1886	1935	1984	2033	2082	2131	2180	2229	2278	2327		
56	2376	2425	2474	2523	2572	2621	2670	2719	2768	2817		
57	2866	2915	2965	3014	3063	3112	3161	3210	3259	3308		
58	3357	3406	3455	3504	3553	3602	3651	3700	3749	3798		
59	3847	3896	3945	3994	4043	4092	4141	4190	4239	4288		
8860	4337	4386	4435	4484	4533	4582	4631	4680	4729	4778		
61	4827	4876	4925	4974	5023	5072	5121	5170	5219	5268		
62	5317	5366	5415	5464	5513	5562	5611	5660	5709	5758		
63	5807	5856	5905	5954	6003	6052	6101	6150	6199	6248		
64	6297	6346	6395	6444	6493	6542	6591	6640	6689	6738		
65	6787	6836	6885	6934	6983	7032	7081	7130	7179	7228		
66	7277	7326	7375	7424	7473	7522	7571	7620	7669	7718		
67	7767	7816	7865	7914	7963	8012	8061	8110	8159	8208		
68	8257	8306	8355	8404	8453	8502	8551	8600	8649	8698		
69	8747	8796	8844	8893	8942	8991	9040	9089	9138	9187		
8870	9236	9285	9334	9383	9432	9481	9530	9579	9628	9677		
71	9726	9775	9824	9873	9922	9971	0020	0069	0117	0166		
72	948	0215	0264	0313	0362	0411	0460	0509	0558	0607	0656	48.9
73	0705	0754	0803	0852	0901	0950	0998	1047	1096	1145		
74	1194	1243	1292	1341	1390	1439	1488	1537	1586	1635		
75	1684	1733	1781	1830	1879	1928	1977	2026	2075	2124		
76	2173	2222	2271	2320	2369	2418	2466	2515	2564	2613		
77	2662	2711	2760	2809	2858	2907	2956	3005	3054	3102		
78	3151	3200	3249	3298	3347	3396	3445	3494	3543	3592		
79	3641	3689	3738	3787	3836	3885	3934	3983	4032	4081		
8880	4130	4179	4227	4276	4325	4374	4423	4472	4521	4570	49	
81	4619	4668	4717	4765	4814	4863	4912	4961	5010	5059	1-5	
82	5108	5157	5205	5254	5303	5352	5401	5450	5499	5548	2-10	
83	5597	5646	5694	5743	5792	5841	5890	5939	5988	6037	3-15	
84	6085	6134	6183	6232	6281	6330	6379	6428	6477	6525	4-20	
85	6574	6623	6672	6721	6770	6819	6868	6916	6965	7014	5-24	
86	7063	7112	7161	7210	7259	7307	7356	7405	7454	7503	6-29	
87	7552	7601	7650	7698	7747	7796	7845	7894	7943	7992	7-34	
88	8040	8089	8138	8187	8236	8285	8334	8382	8431	8480	8-39	
89	8529	8578	8627	8676	8724	8773	8822	8871	8920	8969	9-44	
8890	9018	9066	9115	9164	9213	9262	9311	9360	9408	9457	48.8	
91	9506	9555	9604	9653	9701	9750	9799	9848	9897	9946		
92	9995	0043	0092	0141	0190	0239	0288	0336	0385	0434		
93	949	0483	0532	0581	0629	0678	0727	0776	0825	0874	0922	
94	0971	1020	1069	1118	1167	1215	1264	1313	1362	1411		
95	1460	1508	1557	1606	1655	1704	1752	1801	1850	1899		
96	1948	1997	2045	2094	2143	2192	2241	2289	2338	2387		
97	2436	2485	2534	2582	2631	2680	2729	2778	2826	2875		
98	2924	2973	3022	3070	3119	3168	3217	3266	3314	3363		
99	3412	3461	3510	3558	3607	3656	3705	3754	3802	3851		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8900	949	3900	3949	3998	4046	4095	4144	4193	4242	4290	4339	
01		4388	4437	4486	4534	4583	4632	4681	4730	4778	4827	
02		4876	4925	4973	5022	5071	5120	5169	5217	5266	5315	
03		5364	5413	5461	5510	5559	5608	5656	5705	5754	5803	
04		5852	5900	5949	5998	6047	6095	6144	6193	6242	6290	
05		6339	6388	6437	6486	6534	6583	6632	6681	6729	6778	
06		6827	6876	6924	6973	7022	7071	7119	7168	7217	7266	
07		7315	7363	7412	7461	7510	7558	7607	7656	7705	7753	
08		7802	7851	7900	7948	7997	8046	8095	8143	8192	8241	
09		8290	8338	8387	8436	8485	8533	8582	8631	8680	8728	48.7
8910		8777	8826	8875	8923	8972	9021	9069	9118	9167	9216	49
11		9264	9313	9362	9411	9459	9508	9557	9606	9654	9703	1-4
12		9752	9801	9849	9898	9947	9995	0044	0093	0142	0190	2-10
13	950	0239	0288	0337	0385	0434	0483	0531	0580	0629	0678	3-15
14		0726	0775	0824	0872	0921	0970	1019	1067	1116	1165	4-20
15		1213	1262	1311	1360	1408	1457	1506	1554	1603	1652	5-24
16		1701	1749	1798	1847	1895	1944	1993	2042	2090	2139	6-29
17		2188	2236	2285	2334	2382	2431	2480	2529	2577	2626	7-34
18		2675	2723	2772	2821	2869	2918	2967	3016	3064	3113	8-39
19		3162	3210	3259	3308	3356	3405	3454	3502	3551	3600	9-44
8920		3649	3697	3746	3795	3843	3892	3941	3989	4038	4087	
21		4135	4184	4233	4281	4330	4379	4427	4476	4525	4574	
22		4622	4671	4720	4768	4817	4866	4914	4963	5012	5060	
23		5109	5158	5206	5255	5304	5352	5401	5450	5498	5547	
24		5596	5644	5693	5742	5790	5839	5888	5936	5985	6034	
25		6082	6131	6180	6228	6277	6326	6374	6423	6472	6520	
26		6569	6617	6666	6715	6763	6812	6861	6909	6958	7007	
27		7055	7104	7153	7201	7250	7299	7347	7396	7445	7493	48.6
28		7542	7590	7639	7688	7736	7785	7834	7882	7931	7980	
29		8028	8077	8126	8174	8223	8271	8320	8369	8417	8466	
8930		8515	8563	8612	8660	8709	8758	8806	8855	8904	8952	
31		9001	9050	9098	9147	9195	9244	9293	9341	9390	9439	
32		9487	9536	9584	9633	9682	9730	9779	9827	9876	9925	
33		9973	0022	0071	0119	0168	0216	0265	0314	0362	0411	
34	951	0459	0508	0557	0605	0654	0703	0751	0800	0848	0897	
35		0946	0994	1043	1091	1140	1189	1237	1286	1334	1383	
36		1432	1480	1529	1577	1626	1675	1723	1772	1820	1869	
37		1918	1966	2015	2063	2112	2161	2209	2258	2306	2355	
38		2404	2452	2501	2549	2598	2646	2695	2744	2792	2841	
39		2889	2938	2987	3035	3084	3132	3181	3229	3278	3327	
8940		3375	3424	3472	3521	3569	3618	3667	3715	3764	3812	
41		3861	3910	3958	4007	4055	4104	4152	4201	4250	4298	
42		4347	4395	4444	4492	4541	4589	4638	4687	4735	4784	
43		4832	4881	4929	4978	5027	5075	5124	5172	5221	5269	
44		5318	5366	5415	5464	5512	5561	5609	5658	5706	5755	
45		5803	5852	5901	5949	5998	6046	6095	6143	6192	6240	48.5
46		6289	6337	6386	6435	6483	6532	6580	6629	6677	6726	
47		6774	6823	6871	6920	6969	7017	7066	7114	7163	7211	
48		7260	7308	7357	7405	7454	7502	7551	7599	7648	7697	
49		7745	7794	7842	7891	7939	7988	8036	8085	8133	8182	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

10 101000.

N. 89500. L. 951

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
8950	951	8230	8279	8327	8376	8424	8473	8521	8570	8619	8667	48.5
51		8716	8764	8813	8861	8910	8958	9007	9055	9104	9152	1-5
52		9201	9249	9298	9346	9395	9443	9492	9540	9589	9637	2-10
53		9686	9734	9783	9831	9880	9928	9977	0025	0074	0122	3-15
54	952	0171	0219	0268	0316	0365	0413	0462	0510	0559	0607	4-19
55		0656	0704	0753	0801	0850	0898	0947	0995	1044	1092	5-24
56		1141	1189	1238	1286	1335	1383	1432	1480	1529	1577	6-29
57		1626	1674	1723	1771	1820	1868	1917	1965	2014	2062	7-34
58		2111	2159	2208	2256	2305	2353	2401	2450	2498	2547	8-39
59		2595	2644	2692	2741	2789	2838	2886	2935	2983	3032	9-44
8960		3080	3129	3177	3226	3274	3322	3371	3419	3468	3516	
61		3565	3613	3662	3710	3759	3807	3856	3904	3952	4001	
62		4049	4098	4146	4195	4243	4292	4340	4389	4437	4486	
63		4534	4582	4631	4679	4728	4776	4825	4873	4922	4970	
64		5018	5067	5115	5164	5212	5261	5309	5358	5406	5454	48.4
65		5503	5551	5600	5648	5697	5745	5794	5842	5890	5939	
66		5987	6036	6084	6133	6181	6230	6278	6326	6375	6423	
67		6472	6520	6569	6617	6665	6714	6762	6811	6859	6908	
68		6956	7004	7053	7101	7150	7198	7247	7295	7343	7392	
69		7440	7489	7537	7586	7634	7682	7731	7779	7828	7876	
8970		7924	7973	8021	8070	8118	8167	8215	8263	8312	8360	
71		8409	8457	8505	8554	8602	8651	8699	8747	8796	8844	
72		8893	8941	8989	9038	9086	9135	9183	9231	9280	9328	
73		9377	9425	9473	9522	9570	9619	9667	9715	9764	9812	
74		9861	9909	9957	0006	0054	0103	0151	0199	0248	0296	
75	953	0345	0393	0441	0490	0538	0587	0635	0683	0732	0780	
76		0828	0877	0925	0974	1022	1070	1119	1167	1215	1264	
77		1312	1361	1409	1457	1506	1554	1603	1651	1699	1748	
78		1796	1844	1893	1941	1989	2038	2086	2135	2183	2231	
79		2280	2328	2376	2425	2473	2522	2570	2618	2667	2715	
8980		2763	2812	2860	2908	2957	3005	3054	3102	3150	3199	
81		3247	3295	3344	3392	3440	3489	3537	3585	3634	3682	
82		3731	3779	3827	3876	3924	3972	4021	4069	4117	4166	48.3
83		4214	4262	4311	4359	4407	4455	4504	4552	4601	4649	
84		4697	4746	4794	4842	4891	4939	4987	5036	5084	5132	
85		5181	5229	5277	5326	5374	5422	5471	5519	5567	5616	
86		5664	5712	5761	5809	5857	5906	5954	6002	6051	6099	
87		6147	6196	6244	6292	6341	6389	6437	6486	6534	6582	
88		6631	6679	6727	6776	6824	6872	6921	6969	7017	7065	
89		7114	7162	7210	7259	7307	7355	7404	7452	7500	7549	
8990		7597	7645	7694	7742	7790	7838	7887	7935	7983	8032	
91		8080	8128	8177	8225	8273	8321	8370	8418	8466	8515	
92		8563	8611	8660	8708	8756	8804	8853	8901	8949	8998	
93		9046	9094	9143	9191	9239	9287	9336	9384	9432	9481	
94		9529	9577	9625	9674	9722	9770	9819	9867	9915	9963	
95	954	0012	0060	0108	0157	0205	0253	0301	0350	0398	0446	
96		0494	0543	0591	0639	0688	0736	0784	0832	0881	0929	
97		0977	1025	1074	1122	1170	1219	1267	1315	1363	1412	
98		1460	1508	1556	1605	1653	1701	1749	1798	1846	1894	
99		1943	1991	2039	2087	2136	2184	2232	2280	2329	2377	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 90000. L. 954.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9000	954	2425	2473	2522	2570	2618	2666	2715	2763	2811	2859	
01	2908	2956	3004	3052	3101	3149	3197	3245	3294	3342	48.2	
02	3390	3438	3487	3535	3583	3631	3680	3728	3776	3824		
03	3873	3921	3969	4017	4065	4114	4162	4210	4258	4307		
04	4355	4403	4451	4500	4548	4596	4644	4692	4741	4789		
05	4837	4885	4934	4982	5030	5078	5127	5175	5223	5271		
06	5319	5368	5416	5464	5512	5561	5609	5657	5705	5753		
07	5802	5850	5898	5946	5994	6043	6091	6139	6187	6236		
08	6284	6332	6380	6428	6477	6525	6573	6621	6669	6718		
09	6766	6814	6862	6910	6959	7007	7055	7103	7152	7200		
9010	7248	7296	7344	7393	7441	7489	7537	7585	7634	7682		
11	7730	7778	7826	7874	7923	7971	8019	8067	8115	8164		
12	8212	8260	8308	8356	8405	8453	8501	8549	8597	8646		
13	8694	8742	8790	8838	8886	8935	8983	9031	9079	9127		
14	9175	9224	9272	9320	9368	9416	9465	9513	9561	9609		
15	9657	9705	9754	9802	9850	9898	9946	9995	0043	0091		
16	955	0139	0187	0235	0284	0332	0380	0428	0476	0524		
17	0621	0669	0717	0765	0813	0862	0910	0958	1006	1054		
18	1102	1150	1199	1247	1295	1343	1391	1439	1488	1536		
19	1584	1632	1680	1728	1776	1825	1873	1921	1969	2017		
9020	2065	2114	2162	2210	2258	2306	2354	2402	2451	2499	48.1	
21	2547	2595	2643	2691	2739	2788	2836	2884	2932	2980		
22	3028	3076	3125	3173	3221	3269	3317	3365	3413	3461		
23	3510	3558	3606	3654	3702	3750	3798	3846	3895	3943		
24	3991	4039	4087	4135	4183	4231	4280	4328	4376	4424		
25	4472	4520	4568	4616	4665	4713	4761	4809	4857	4905		
26	4953	5001	5050	5098	5146	5194	5242	5290	5338	5386		
27	5434	5483	5531	5579	5627	5675	5723	5771	5819	5867		
28	5916	5964	6012	6060	6108	6156	6204	6252	6300	6348		
29	6397	6445	6493	6541	6589	6637	6685	6733	6781	6829		
9030	6878	6926	6974	7022	7070	7118	7166	7214	7262	7310		
31	7358	7407	7455	7503	7551	7599	7647	7695	7743	7791		
32	7839	7887	7935	7984	8032	8080	8128	8176	8224	8272		
33	8320	8368	8416	8464	8512	8560	8609	8657	8705	8753		
34	8801	8849	8897	8945	8993	9041	9089	9137	9185	9234		
35	9282	9330	9378	9426	9474	9522	9570	9618	9666	9714		
36	9762	9810	9858	9906	9954	0003	0051	0099	0147	0195		
37	956	0243	0291	0339	0387	0435	0483	0531	0579	0627		
38	0723	0771	0819	0868	0916	0964	1012	1060	1108	1156	48	
39	1204	1252	1300	1348	1396	1444	1492	1540	1588	1636		
9040	1684	1732	1780	1828	1876	1925	1973	2021	2069	2117		48
41	2165	2213	2261	2309	2357	2405	2453	2501	2549	2597		1-5
42	2645	2693	2741	2789	2837	2885	2933	2981	3029	3077		2-10
43	3125	3173	3221	3269	3317	3365	3413	3461	3509	3558		3-14
44	3606	3654	3702	3750	3798	3846	3894	3942	3990	4038		4-19
45	4086	4134	4182	4230	4278	4326	4374	4422	4470	4518		5-24
46	4566	4614	4662	4710	4758	4806	4854	4902	4950	4998		6-29
47	5046	5094	5142	5190	5238	5286	5334	5382	5430	5478		7-34
48	5526	5574	5622	5670	5718	5766	5814	5862	5910	5958		8-38
49	6006	6054	6102	6150	6198	6246	6294	6342	6390	6438		9-43
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 90500. L. 956

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9050	956	6486	6534	6582	6630	6678	6726	6774	6822	6870	6918	
51	6966	7014	7062	7110	7158	7206	7254	7302	7349	7397		
52	7445	7493	7541	7589	7637	7685	7733	7781	7829	7877		
53	7925	7973	8021	8069	8117	8165	8213	8261	8309	8357		
54	8405	8453	8501	8549	8597	8645	8693	8741	8789	8837		
55	8885	8933	8980	9028	9076	9124	9172	9220	9268	9316		
56	9364	9412	9460	9508	9556	9604	9652	9700	9748	9796		
57	9844	9892	9940	9988	0035	0083	0131	0179	0227	0275	47-9	
58	957	0323	0371	0419	0467	0515	0563	0611	0659	0707	0755	
59	0803	0851	0898	0946	0994	1042	1090	1138	1186	1234		
9060	1282	1330	1378	1426	1474	1522	1570	1618	1665	1713		
61	1761	1809	1857	1905	1953	2001	2049	2097	2145	2193		
62	2241	2289	2336	2384	2432	2480	2528	2576	2624	2672		
63	2720	2768	2816	2864	2911	2959	3007	3055	3103	3151		
64	3199	3247	3295	3343	3391	3439	3486	3534	3582	3630		
65	3678	3726	3774	3822	3870	3918	3966	4013	4061	4109		
66	4157	4205	4253	4301	4349	4397	4445	4492	4540	4588		
67	4636	4684	4732	4780	4828	4876	4924	4971	5019	5067		
68	5115	5163	5211	5259	5307	5355	5402	5450	5498	5546		
69	5594	5642	5690	5738	5786	5833	5881	5929	5977	6025		
9070	6073	6121	6169	6217	6264	6312	6360	6408	6456	6504		
71	6552	6600	6647	6695	6743	6791	6839	6887	6935	6983		
72	7030	7078	7126	7174	7222	7270	7318	7366	7413	7461		
73	7509	7557	7605	7653	7701	7748	7796	7844	7892	7940		
74	7988	8036	8083	8131	8179	8227	8275	8323	8371	8418		
75	8466	8514	8562	8610	8658	8706	8753	8801	8849	8897		
76	8945	8993	9041	9088	9136	9184	9232	9280	9328	9376	74-8	
77	9423	9471	9519	9567	9615	9663	9710	9758	9806	9854		
78	9902	9950	9997	0045	0093	0141	0189	0237	0284	0332		
79	958	0380	0428	0476	0524	0571	0619	0667	0715	0763	0811	
9080	0858	0906	0954	1002	1050	1098	1145	1193	1241	1289		47-5
81	1337	1385	1432	1480	1528	1576	1624	1672	1719	1767		1-5
82	1815	1863	1911	1958	2006	2054	2102	2150	2198	2245		2-5
83	2293	2341	2389	2437	2484	2532	2580	2628	2676	2723		3-14
84	2771	2819	2867	2915	2962	3010	3058	3106	3154	3202		4-19
85	3249	3297	3345	3393	3441	3488	3536	3584	3632	3680		5-24
86	3727	3775	3823	3871	3919	3966	4014	4062	4110	4157		6-28
87	4205	4253	4301	4349	4396	4444	4492	4540	4588	4635		7-33
88	4683	4731	4779	4827	4874	4922	4970	5018	5065	5113		8-38
89	5161	5209	5257	5304	5352	5400	5448	5495	5543	5591		9-43
9090	5639	5687	5734	5782	5830	5878	5925	5973	6021	6069		
91	6117	6164	6212	6260	6308	6355	6403	6451	6499	6547		
92	6594	6642	6690	6738	6785	6833	6881	6929	6976	7024		
93	7072	7120	7167	7215	7263	7311	7358	7406	7454	7502		
94	7549	7597	7645	7693	7741	7788	7836	7884	7932	7979	47-7	
95	8027	8075	8123	8170	8218	8266	8314	8361	8409	8457		
96	8505	8552	8600	8648	8695	8743	8791	8839	8886	8934		
97	8982	9030	9077	9125	9173	9221	9268	9316	9364	9412		
98	9459	9507	9555	9603	9650	9698	9746	9793	9841	9889		
99	9937	9984	0032	0080	0128	0175	0223	0271	0318	0366		
	0	1	2	3	4	5	6	7	8	9	D	Pro.

N.91000. L. 954.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9100	959	0414	0462	0509	0557	0609	0653	0700	0748	0796	0843	47-4
01		0891	0939	0987	1034	1082	1130	1177	1225	1273	1321	1-4
02		1368	1416	1464	1511	1559	1607	1655	1702	1750	1798	2-4
03		1845	1893	1941	1989	2036	2084	2132	2179	2227	2275	3-14
04		2322	2370	2418	2466	2513	2561	2609	2656	2704	2752	4-19
05		2800	2847	2895	2943	2990	3038	3086	3133	3181	3229	5-24
06		3276	3324	3372	3420	3467	3515	3563	3610	3658	3706	6-28
07		3753	3801	3849	3897	3944	3992	4039	4087	4135	4183	7-33
08		4230	4278	4326	4373	4421	4469	4516	4564	4612	4659	8-38
09		4707	4755	4802	4850	4898	4945	4993	5041	5088	5136	9-43
9110		5184	5231	5279	5327	5374	5422	5470	5517	5565	5613	
11		5660	5708	5756	5803	5851	5899	5946	5994	6042	6089	
12		6137	6185	6232	6280	6328	6375	6423	6471	6518	6566	
13		6614	6661	6709	6757	6804	6852	6900	6947	6995	7043	
14		7090	7138	7186	7233	7281	7328	7376	7424	7471	7519	47-6
15		7567	7614	7662	7710	7757	7805	7853	7900	7948	7996	
16		8043	8091	8138	8186	8234	8281	8329	8377	8424	8472	
17		8520	8567	8615	8662	8710	8758	8805	8853	8901	8948	
18		8996	9044	9091	9139	9186	9234	9282	9329	9377	9425	
19		9472	9520	9567	9615	9663	9710	9758	9806	9853	9901	
9120		9948	9996	0044	0091	0139	0186	0234	0282	0329	0377	
21	960	0425	0472	0520	0567	0615	0663	0710	0758	0805	0853	
22		0901	0948	0996	1044	1091	1139	1186	1234	1282	1329	
23		1377	1424	1472	1520	1567	1615	1662	1710	1758	1805	
24		1853	1900	1948	1996	2043	2091	2138	2186	2234	2281	
25		2329	2376	2424	2472	2519	2567	2614	2662	2709	2757	
26		2805	2852	2900	2947	2995	3043	3090	3138	3185	3233	
27		3281	3328	3376	3423	3471	3518	3566	3614	3661	3709	
28		3756	3804	3851	3899	3947	3994	4042	4089	4137	4184	
29		4232	4280	4327	4375	4422	4470	4517	4565	4613	4660	
9130		4708	4755	4803	4850	4898	4946	4993	5041	5088	5136	
31		5183	5231	5279	5326	5374	5421	5469	5516	5564	5611	
32		5659	5707	5754	5802	5849	5897	5944	5992	6039	6087	
33		6135	6182	6230	6277	6325	6372	6420	6467	6515	6562	47-5
34		6610	6658	6705	6753	6800	6848	6895	6943	6990	7038	
35		7086	7133	7181	7228	7276	7323	7371	7418	7466	7512	
36		7561	7608	7656	7704	7751	7799	7846	7894	7941	7989	
37		8036	8084	8131	8179	8226	8274	8321	8369	8416	8464	
38		8512	8559	8607	8654	8702	8749	8797	8844	8892	8939	
39		8987	9034	9082	9129	9177	9224	9272	9319	9367	9414	
9140		9462	9509	9557	9605	9652	9700	9747	9795	9842	9890	
41		9937	9985	0032	0080	0127	0175	0222	0270	0317	0365	
42	961	0412	0460	0507	0555	0602	0650	0697	0745	0792	0840	
43		0887	0935	0982	1030	1077	1125	1172	1220	1267	1315	
44		1362	1410	1457	1505	1552	1600	1647	1695	1742	1790	
45		1837	1885	1932	1980	2027	2075	2122	2170	2217	2264	
46		2312	2359	2407	2454	2502	2549	2597	2644	2692	2739	
47		2787	2834	2882	2929	2977	3024	3072	3119	3167	3214	
48		3262	3309	3357	3404	3451	3499	3546	3594	3641	3689	
49		3736	3784	3831	3879	3926	3974	4021	4069	4116	4163	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 10,000.

N. 91500. L. 961

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9150	961	4211	4258	4306	4353	4401	4448	4496	4543	4591	4638	
51		4686	4733	4780	4828	4875	4923	4970	5018	5065	5113	
52		5160	5208	5255	5302	5350	5397	5445	5492	5540	5587	
53		5635	5682	5730	5777	5824	5872	5919	5967	6014	6062	47.4
54		6109	6157	6204	6251	6299	6346	6394	6441	6489	6536	
55		6583	6631	6678	6726	6773	6821	6868	6916	6963	7010	
56		7058	7105	7153	7200	7248	7295	7342	7390	7437	7485	
57		7532	7580	7627	7674	7722	7769	7817	7864	7912	7959	
58		8006	8054	8101	8149	8196	8243	8291	8338	8386	8433	
59		8481	8528	8575	8623	8670	8718	8765	8812	8860	8907	
9160		8955	9002	9050	9097	9144	9192	9239	9287	9334	9381	
61		9429	9476	9524	9571	9618	9666	9713	9761	9808	9855	
62		9903	9950	9998	0045	0092	0140	0187	0235	0282	0329	
63	962	0377	0424	0472	0519	0566	0614	0661	0709	0756	0803	
64		0851	0898	0946	0993	1040	1088	1135	1183	1230	1277	
65		1325	1372	1419	1467	1514	1562	1609	1656	1704	1751	
66		1799	1846	1893	1941	1988	2035	2083	2130	2178	2225	
67		2272	2320	2367	2414	2462	2509	2557	2604	2651	2699	
68		2746	2793	2841	2888	2936	2983	3030	3078	3125	3172	
69		3220	3267	3314	3362	3409	3457	3504	3551	3599	3646	
9170		3693	3741	3788	3835	3883	3930	3978	4025	4072	4120	
71		4167	4214	4262	4309	4356	4404	4451	4498	4546	4593	
72		4640	4688	4735	4783	4830	4877	4925	4972	5019	5067	47.3
73		5114	5161	5209	5256	5303	5351	5398	5445	5493	5540	
74		5587	5635	5682	5729	5777	5824	5871	5919	5966	6013	
75		6061	6108	6155	6203	6250	6297	6345	6392	6439	6487	
76		6534	6581	6629	6676	6723	6771	6818	6865	6913	6960	
77		7007	7055	7102	7149	7197	7244	7291	7338	7386	7433	
78		7481	7528	7575	7622	7670	7717	7764	7812	7859	7906	
79		7954	8001	8048	8096	8143	8190	8238	8285	8332	8380	
9180		8427	8474	8521	8569	8616	8663	8711	8758	8805	8853	47
81		8900	8947	8994	9041	9089	9136	9184	9231	9278	9326	1-5
82		9373	9420	9467	9515	9562	9609	9657	9704	9751	9799	2-9
83		9846	9893	9940	9988	0035	0082	0130	0177	0224	0271	3-14
84	963	0319	0365	0413	0461	0508	0555	0602	0650	0697	0744	4-18
85		0792	0839	0886	0933	0981	1028	1075	1123	1170	1217	5-23
86		1264	1312	1359	1406	1454	1501	1548	1595	1643	1690	6-28
87		1737	1784	1832	1879	1926	1974	2021	2068	2115	2163	7-33
88		2210	2257	2304	2352	2399	2446	2493	2541	2588	2635	8-38
89		2683	2730	2777	2824	2872	2919	2966	3013	3061	3108	9-42
9190		3155	3202	3250	3297	3344	3391	3439	3486	3533	3580	
91		3628	3675	3722	3769	3817	3864	3911	3958	4006	4053	47.2
92		4100	4147	4195	4242	4289	4336	4384	4431	4478	4525	
93		4573	4620	4667	4714	4762	4809	4856	4903	4951	4998	
94		5045	5092	5139	5187	5234	5281	5328	5376	5423	5470	
95		5517	5565	5612	5659	5706	5753	5801	5848	5895	5942	
96		5990	6037	6084	6131	6179	6226	6273	6320	6367	6415	
97		6462	6509	6556	6604	6651	6698	6745	6792	6840	6887	
98		6934	6981	7028	7076	7123	7170	7217	7264	7312	7359	
99		7406	7453	7501	7548	7595	7642	7689	7737	7784	7831	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 92000. L. 963.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts
9200	963.7878	7925	7973	8020	8067	8114	8162	8209	8256	8303		47
01	8350	8398	8441	8492	8539	8586	8633	8681	8728	8775		1-5
02	8822	8869	8917	8964	9011	9058	9105	9153	9200	9247		2-9
03	9294	9341	9389	9436	9483	9530	9577	9625	9672	9719		3-14
04	9766	9813	9860	9908	9955	0002	0049	0096	0144	0191		4-19
05	0238	0285	0332	0379	0427	0474	0521	0568	0615	0663		5-23
06	0710	0757	0804	0851	0898	0946	0993	1040	1087	1134		6-28
07	1181	1229	1276	1323	1370	1417	1464	1512	1559	1606		7-33
08	1653	1700	1747	1795	1842	1889	1936	1983	2030	2078		8-38
09	2125	2172	2219	2266	2313	2361	2408	2455	2502	2549		9-42
9210	2596	2643	2691	2738	2785	2832	2879	2925	2974	3021		
11	3068	3115	3162	3209	3256	3304	3351	3398	3445	3492	47-1	
12	3539	3586	3634	3681	3728	3775	3822	3869	3916	3964		
13	4011	4058	4105	4152	4199	4246	4294	4341	4388	4435		
14	4482	4529	4576	4623	4671	4718	4765	4812	4859	4905		
15	4953	5001	5048	5095	5142	5189	5236	5283	5330	5378		
16	5425	5472	5519	5566	5613	5660	5707	5755	5802	5849		
17	5896	5943	5990	6037	6084	6131	6179	6226	6273	6320		
18	6367	6414	6461	6508	6555	6603	6650	6697	6744	6791		
19	6838	6885	6932	6979	7027	7074	7121	7168	7215	7262		
9220	7309	7356	7403	7451	7498	7545	7592	7639	7686	7733		
21	7780	7827	7874	7922	7969	8016	8063	8110	8157	8204		
22	8251	8298	8345	8392	8440	8487	8534	8581	8628	8675		
23	8722	8769	8816	8863	8910	8958	9005	9052	9099	9146		
24	9193	9240	9287	9334	9381	9428	9475	9523	9570	9617		
25	9664	9711	9758	9805	9852	9899	9946	9993	0040	0087		
26	0135	0182	0229	0276	0323	0370	0417	0464	0511	0558		
27	0605	0652	0699	0746	0793	0841	0888	0935	0982	1029		
28	1076	1123	1170	1217	1264	1311	1358	1405	1452	1499		
29	1547	1593	1641	1688	1735	1782	1829	1876	1923	1970		
9230	2017	2064	2111	2158	2205	2252	2299	2346	2393	2440		
31	2488	2534	2582	2629	2676	2723	2770	2817	2864	2911	47	
32	2958	3005	3052	3099	3146	3193	3240	3287	3334	3381		
33	3428	3475	3522	3569	3617	3664	3711	3758	3805	3852		
34	3899	3946	3993	4040	4087	4134	4181	4228	4275	4322		
35	4369	4416	4463	4510	4557	4604	4651	4698	4745	4792		
36	4839	4886	4933	4980	5027	5074	5121	5168	5215	5262		
37	5309	5356	5403	5450	5497	5545	5592	5639	5686	5733		
38	5780	5827	5874	5921	5968	6015	6062	6109	6156	6203		
39	6250	6297	6344	6390	6438	6485	6532	6579	6626	6673		
9240	6720	6767	6814	6860	6908	6955	7002	7049	7096	7143		
41	7190	7237	7284	7331	7378	7425	7472	7519	7566	7613		
42	7660	7707	7754	7801	7848	7895	7942	7988	8035	8083		
43	8130	8177	8224	8270	8317	8364	8411	8458	8505	8552		
44	8599	8646	8693	8740	8787	8834	8881	8928	8975	9022		
45	9059	9106	9153	9210	9257	9304	9351	9398	9445	9492		
46	9539	9586	9633	9680	9727	9774	9821	9868	9915	9962		
47	9966	0009	0056	0103	0149	0196	0243	0290	0337	0384		
48	0478	0525	0572	0619	0666	0713	0760	0807	0854	0901		
49	0948	0995	1042	1089	1136	1183	1230	1276	1323	1370		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9250	66	1417	1464	1511	1558	1605	1652	1699	1746	1793	1840	46.9
51		1887	1934	1981	2028	2075	2122	2168	2215	2262	2309	
52		2356	2403	2450	2497	2544	2591	2638	2685	2732	2779	
53		2826	2872	2919	2966	3013	3060	3107	3154	3201	3248	
54		3295	3342	3389	3436	3483	3530	3577	3623	3670	3717	
55		3764	3811	3858	3905	3952	3999	4046	4093	4140	4187	
56		4233	4280	4327	4374	4421	4468	4515	4562	4609	4656	
57		4703	4750	4796	4843	4890	4937	4984	5031	5078	5125	
58		5172	5219	5266	5312	5359	5406	5453	5500	5547	5594	
59		5641	5688	5735	5782	5828	5875	5922	5969	6016	6063	
9260		6110	6157	6204	6250	6297	6344	6391	6438	6485	6532	
61		6579	6626	6673	6720	6766	6813	6860	6907	6954	7001	
62		7048	7095	7142	7188	7235	7282	7329	7376	7423	7470	
63		7517	7564	7610	7657	7704	7751	7798	7845	7892	7939	
64		7985	8032	8079	8126	8173	8220	8267	8314	8360	8407	
65		8454	8501	8548	8595	8642	8689	8735	8782	8829	8876	
66		8923	8970	9017	9064	9110	9157	9204	9251	9298	9345	
67		9392	9438	9485	9532	9579	9626	9673	9720	9767	9813	
68		9860	9907	9954	0001	0048	0095	0141	0188	0235	0282	
69	667	0329	0376	0423	0469	0516	0563	0610	0657	0704	0750	
9270		0797	0844	0891	0938	0985	1032	1078	1125	1172	1219	46.8
71		1266	1313	1359	1406	1453	1500	1547	1594	1641	1687	
72		1734	1781	1828	1875	1922	1968	2015	2062	2109	2156	
73		2203	2249	2296	2343	2390	2437	2483	2530	2577	2624	
74		2671	2718	2765	2811	2858	2905	2952	2999	3046	3092	
75		3139	3186	3233	3280	3326	3373	3420	3467	3514	3561	
76		3607	3654	3701	3748	3795	3841	3888	3935	3982	4029	
77		4076	4122	4169	4216	4263	4310	4356	4403	4450	4497	
78		4544	4590	4637	4684	4731	4778	4825	4871	4918	4965	
79		5012	5058	5105	5152	5199	5246	5292	5339	5386	5433	
9280		5480	5527	5573	5620	5667	5714	5761	5807	5854	5901	46.
81		5948	5995	6041	6088	6135	6182	6228	6275	6322	6369	1--
82		6416	6462	6509	6556	6603	6650	6696	6743	6790	6837	2--
83		6884	6930	6977	7024	7071	7117	7164	7211	7258	7305	3--1
84		7351	7398	7445	7492	7538	7585	7632	7679	7726	7772	4--1
85		7819	7866	7913	7959	8006	8053	8100	8146	8193	8240	5--2
86		8287	8334	8380	8427	8474	8521	8567	8614	8661	8708	6--2
87		8754	8801	8848	8895	8942	8988	9035	9082	9129	9175	7--3
88		9222	9269	9316	9362	9409	9456	9503	9549	9596	9643	8--3
89		9690	9736	9783	9830	9877	9923	9970	0017	0064	0110	9--4
9290	068	0147	0204	0251	0297	0344	0391	0438	0484	0531	0578	46.7
91		0625	0671	0718	0765	0812	0858	0905	0952	0999	1045	
92		1092	1139	1185	1232	1279	1326	1372	1419	1466	1513	
93		1559	1606	1653	1699	1746	1793	1840	1886	1933	1980	
94		2027	2073	2120	2167	2213	2260	2307	2354	2400	2447	
95		2494	2541	2587	2634	2681	2727	2774	2821	2868	2914	
96		2961	3008	3054	3101	3148	3195	3241	3288	3335	3382	
97		3428	3475	3522	3568	3615	3662	3708	3755	3802	3849	
98		3895	3942	3989	4036	4082	4129	4176	4222	4269	4316	
99		4362	4409	4456	4503	4549	4596	4643	4689	4736	4782	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
9300	968.4829	4876	4923	4970	5016	5063	5110	5154	5203	5250		46.5
01		5296	5343	5390	5437	5483	5530	5577	5623	5670		11.5
02		5763	5810	5857	5903	5950	5997	6043	6090	6137		2.9
03		6230	6277	6324	6370	6417	6464	6510	6557	6604		3.14
04		6697	6744	6790	6837	6884	6930	6977	7024	7070		4.19
05		7164	7210	7257	7304	7350	7397	7444	7490	7537		5.23
06		7630	7677	7724	7770	7817	7864	7910	7957	8004		6.28
07		8097	8144	8190	8237	8284	8330	8377	8424	8470		7.33
08		8564	8610	8657	8704	8750	8797	8844	8890	8937		8.37
09		9030	9077	9124	9170	9217	9264	9310	9357	9404		9.42
9310		9497	9543	9590	9637	9683	9730	9777	9824	9870		46.6
11		9963	0010	0056	0103	0150	0196	0243	0290	0336		
12	969.	0430	0476	0523	0570	0616	0663	0709	0756	0803		
13		0896	0943	0989	1036	1083	1129	1176	1222	1269		
14		1362	1409	1456	1502	1549	1595	1642	1689	1735		
15		1829	1875	1922	1968	2015	2062	2108	2155	2202		
16		2295	2341	2388	2435	2481	2528	2574	2621	2668		
17		2761	2808	2854	2901	2947	2994	3041	3087	3134		
18		3227	3274	3320	3367	3413	3460	3507	3553	3600		
19		3693	3740	3786	3833	3880	3926	3973	4019	4066		
9320		4159	4206	4252	4299	4346	4392	4439	4485	4532		
21		4625	4672	4718	4765	4811	4858	4905	4951	4998		
22		5091	5138	5184	5231	5277	5324	5371	5417	5464		
23		5557	5603	5650	5697	5743	5790	5836	5883	5929		
24		6023	6069	6116	6162	6209	6256	6302	6349	6395		
25		6488	6535	6582	6628	6675	6721	6768	6814	6861		
26		6954	7001	7047	7094	7140	7187	7234	7280	7327		
27		7420	7466	7513	7559	7606	7653	7699	7746	7792		
28		7885	7932	7978	8025	8072	8118	8165	8211	8258		
29		8351	8397	8444	8491	8537	8584	8630	8677	8723		
9330		8816	8863	8910	8956	9003	9049	9096	9142	9189		46.5
31		9282	9328	9375	9422	9468	9515	9561	9608	9654		
32		9747	9794	9840	9887	9933	9980	0027	0073	0120		
33	970.	0213	0259	0306	0352	0399	0445	0492	0538	0585		
34		0678	0724	0771	0818	0864	0911	0957	1004	1050		
35		1143	1190	1236	1283	1329	1376	1422	1469	1515		
36		1608	1655	1701	1748	1794	1841	1888	1934	1981		
37		2074	2120	2167	2213	2260	2306	2353	2399	2446		
38		2539	2585	2632	2678	2725	2772	2818	2864	2911		
39		3004	3050	3097	3143	3190	3236	3283	3329	3376		
9340		3469	3515	3562	3608	3655	3701	3748	3794	3841		
41		3934	3980	4027	4073	4120	4166	4213	4259	4306		
42		4399	4445	4492	4538	4585	4631	4678	4724	4771		
43		4863	4910	4956	5003	5049	5096	5142	5189	5235		
44		5328	5375	5421	5468	5514	5561	5607	5654	5700		
45		5793	5840	5886	5932	5979	6025	6072	6118	6165		
46		6258	6304	6351	6397	6444	6490	6537	6583	6630		
47		6722	6769	6815	6862	6908	6955	7001	7048	7094		
48		7187	7233	7280	7326	7373	7419	7466	7512	7559		
49		7652	7698	7745	7791	7837	7884	7930	7977	8023		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 93500. L. 970

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9350	970.	8116	8163	8209	8255	8302	8348	8395	8441	8488	8534	46.4
51		8581	8627	8673	8720	8766	8813	8859	8906	8952	8999	
52		9045	9091	9138	9184	9231	9277	9324	9370	9416	9463	
53		9509	9556	9602	9649	9695	9742	9788	9834	9881	9927	
54		9974	0020	0067	0113	0159	0206	0252	0299	0345	0391	
55	971.	0438	0484	0531	0577	0624	0670	0716	0763	0809	0856	
56		0902	0949	0995	1041	1088	1134	1181	1227	1273	1320	
57		1366	1413	1459	1506	1552	1598	1645	1691	1738	1784	
58		1830	1877	1923	1970	2016	2062	2109	2155	2202	2248	
59		2294	2341	2387	2434	2480	2526	2573	2619	2666	2712	
60		2758	2805	2851	2898	2944	2990	3037	3083	3130	3176	
61		3222	3269	3315	3362	3408	3454	3501	3547	3594	3640	
62		3686	3733	3779	3826	3872	3918	3965	4011	4057	4104	
63		4150	4197	4243	4289	4336	4382	4429	4475	4521	4568	
64		4614	4660	4707	4753	4800	4846	4892	4939	4985	5031	
65		5078	5124	5171	5217	5263	5310	5356	5402	5449	5495	
66		5542	5588	5634	5681	5727	5773	5820	5866	5912	5959	
67		6005	6052	6098	6144	6191	6237	6283	6330	6376	6422	
68		6469	6515	6562	6608	6654	6701	6747	6793	6840	6886	
69		6932	6979	7025	7071	7118	7164	7211	7257	7303	7349	
70		7396	7442	7489	7535	7581	7628	7674	7720	7767	7813	46.3
71		7859	7906	7952	7998	8045	8091	8137	8184	8230	8276	
72		8323	8369	8415	8462	8508	8554	8601	8647	8693	8740	
73		8786	8833	8879	8925	8972	9018	9064	9111	9157	9203	
74		9249	9296	9342	9388	9435	9481	9527	9574	9620	9666	
75		9713	9759	9805	9852	9898	9944	9991	0037	0083	0130	
76	972.	0176	0222	0269	0315	0361	0408	0454	0500	0547	0593	
77		0639	0685	0732	0778	0824	0871	0917	0963	1010	1056	
78		1102	1149	1195	1241	1288	1334	1380	1426	1473	1519	
79		1565	1612	1658	1704	1750	1797	1843	1889	1936	1982	
80		2028	2075	2121	2167	2214	2260	2306	2352	2399	2445	46
81		2491	2538	2584	2630	2677	2723	2769	2815	2862	2908	1-46
82		2954	3001	3047	3093	3139	3186	3232	3278	3325	3371	2-46
83		3417	3463	3510	3556	3602	3649	3695	3741	3787	3834	3-46
84		3880	3926	3972	4019	4065	4111	4158	4204	4250	4296	4-46
85		4343	4389	4435	4482	4528	4574	4620	4667	4713	4759	5-46
86		4805	4852	4898	4944	4991	5037	5083	5129	5176	5222	6-46
87		5268	5314	5361	5407	5453	5500	5546	5592	5638	5685	7-46
88		5731	5777	5823	5870	5916	5962	6008	6055	6101	6147	8-46
89		6193	6240	6286	6332	6378	6425	6471	6517	6563	6610	9-46
90		6656	6702	6748	6795	6841	6887	6933	6980	7026	7072	46.2
91		7118	7165	7211	7257	7303	7350	7396	7442	7488	7535	
92		7581	7627	7673	7720	7766	7812	7858	7905	7951	7997	
93		8043	8089	8136	8182	8228	8274	8321	8367	8413	8459	
94		8506	8552	8598	8644	8690	8737	8783	8829	8875	8922	
95		8968	9014	9060	9107	9153	9199	9245	9291	9338	9384	
96		9430	9476	9523	9569	9615	9661	9707	9754	9800	9846	
97		9892	9938	9985	0031	0077	0123	0170	0216	0262	0308	
98	973.	0354	0401	0447	0493	0539	0585	0632	0678	0724	0770	
99		0816	0863	0909	0955	1001	1048	1094	1140	1186	1232	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 94000. L. 973.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9400	973.1279	1325	1371	1417	1463	1510	1556	1602	1648	1694		
01	1741	1787	1833	1879	1925	1972	2018	2064	2110	2156		
02	2202	2249	2295	2341	2387	2433	2480	2526	2572	2618		
03	2664	2711	2757	2803	2849	2895	2941	2988	3034	3080		
04	3126	3172	3218	3265	3311	3357	3403	3449	3496	3542		
05	3588	3634	3680	3727	3773	3819	3865	3911	3957	4004		
06	4050	4096	4142	4188	4234	4281	4327	4373	4419	4465		
07	4511	4558	4604	4650	4696	4742	4788	4835	4881	4927		
08	4973	5019	5065	5112	5158	5204	5250	5296	5342	5389		
09	5435	5481	5527	5573	5619	5665	5712	5758	5804	5850		
9410	5896	5942	5989	6035	6081	6127	6173	6219	6265	6312		
11	6358	6404	6450	6496	6542	6588	6635	6681	6727	6773	45.1	
12	6819	6865	6911	6958	7004	7050	7096	7142	7188	7234		
13	7281	7327	7373	7419	7465	7511	7557	7604	7650	7696		
14	7742	7788	7834	7880	7926	7973	8019	8065	8111	8157		
15	8203	8249	8295	8342	8388	8434	8480	8526	8572	8618		
16	8664	8711	8757	8803	8849	8895	8941	8987	9033	9080		
17	9126	9172	9218	9264	9310	9356	9402	9449	9495	9541		
18	9587	9633	9679	9725	9771	9817	9864	9910	9956	0002		
19	974.0048	0094	0140	0186	0232	0279	0325	0371	0417	0463		
9420	0509	0555	0601	0647	0693	0740	0786	0832	0878	0924		
21	0970	1016	1062	1108	1154	1201	1247	1293	1339	1385		
22	1431	1477	1523	1569	1615	1661	1708	1754	1800	1846		
23	1892	1938	1984	2030	2076	2122	2168	2215	2261	2307		
24	2353	2399	2445	2491	2537	2583	2629	2675	2721	2768		
25	2814	2860	2906	2952	2998	3044	3090	3136	3182	3228		
26	3274	3320	3367	3413	3459	3505	3551	3597	3643	3689		
27	3735	3781	3827	3873	3919	3965	4011	4058	4104	4150		
28	4196	4242	4288	4334	4380	4426	4472	4518	4564	4610		
29	4656	4702	4748	4795	4841	4887	4933	4979	5025	5071		
9430	5117	5163	5209	5255	5301	5347	5393	5439	5485	5531		
31	5577	5624	5670	5716	5762	5808	5854	5900	5946	5992	46	
32	6038	6084	6130	6176	6222	6268	6314	6360	6406	6452		
33	6498	6544	6590	6636	6683	6729	6775	6821	6867	6913		
34	6959	7005	7051	7097	7143	7189	7235	7281	7327	7373		
35	7419	7465	7511	7557	7603	7649	7695	7741	7787	7833		
36	7879	7925	7971	8017	8063	8109	8155	8201	8248	8294		
37	8340	8386	8432	8478	8524	8570	8616	8662	8708	8754		
38	8800	8846	8892	8938	8984	9030	9076	9122	9168	9214		
39	9260	9306	9352	9398	9444	9490	9536	9582	9628	9674		
9440	9720	9766	9812	9858	9904	9950	9996	0042	0088	0134		46
41	975.0180	0226	0272	0318	0364	0410	0456	0502	0548	0594	1-5	
42	0640	0686	0732	0778	0824	0870	0916	0962	1008	1054	2-9	
43	1100	1146	1192	1238	1284	1330	1376	1422	1468	1514	3-14	
44	1560	1606	1652	1698	1744	1790	1836	1882	1928	1974	4-18	
45	2020	2066	2112	2158	2204	2250	2296	2342	2388	2434	5-23	
46	2479	2525	2571	2617	2663	2709	2755	2801	2847	2893	6-28	
47	2939	2985	3031	3077	3123	3169	3215	3261	3307	3353	7-32	
48	3399	3445	3491	3537	3583	3629	3675	3721	3767	3813	8-37	
49	3858	3904	3950	3996	4042	4088	4134	4180	4226	4272	9-41	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 84500. L. 975

Numb	0	1	2	3	4	5	6	7	8	9	D	Pts.
9450	875	4318	4364	4410	4456	4502	4548	4594	4640	4686	4732	
51		4778	4824	4870	4915	4961	5007	5053	5099	5145	5191	45-9
52		5237	5283	5329	5375	5421	5467	5513	5559	5605	5651	
53		5697	5743	5788	5834	5880	5926	5972	6018	6064	6110	
54		6156	6202	6248	6294	6340	6386	6432	6478	6523	6569	
55		6615	6661	6707	6753	6799	6845	6891	6937	6983	7029	
56		7075	7121	7166	7212	7258	7304	7350	7396	7442	7488	
57		7534	7580	7626	7672	7718	7763	7809	7855	7901	7947	
58		7993	8039	8085	8131	8177	8223	8269	8315	8360	8406	
59		8452	8498	8544	8590	8636	8682	8728	8774	8820	8866	
9460		8911	8957	9003	9049	9095	9141	9187	9233	9279	9325	
61		9370	9416	9462	9508	9554	9600	9646	9692	9738	9784	
62		9829	9875	9921	9967	0013	0059	0105	0151	0197	0243	
63	976	0288	0334	0380	0426	0472	0518	0564	0610	0656	0701	
64		0747	0793	0839	0885	0931	0977	1023	1069	1114	1160	
65		1206	1252	1298	1344	1390	1436	1481	1527	1573	1619	
66		1665	1711	1757	1803	1849	1894	1940	1986	2032	2078	
67		2124	2170	2216	2261	2307	2353	2399	2445	2491	2537	
68		2582	2628	2674	2720	2766	2812	2858	2904	2949	2995	
69		3041	3087	3133	3179	3225	3270	3316	3362	3408	3454	
9470		3500	3546	3592	3637	3683	3729	3775	3821	3867	3913	
71		3958	4004	4050	4096	4142	4188	4233	4279	4325	4371	
72		4417	4463	4509	4554	4600	4646	4692	4738	4784	4830	45-8
73		4875	4921	4967	5013	5059	5105	5150	5196	5242	5288	
74		5334	5380	5425	5471	5517	5563	5609	5655	5701	5746	
75		5792	5838	5884	5930	5976	6021	6067	6113	6159	6205	
76		6251	6296	6342	6388	6434	6480	6525	6571	6617	6663	
77		6709	6755	6800	6846	6892	6938	6984	7030	7075	7121	
78		7167	7213	7259	7305	7350	7396	7442	7488	7534	7579	
79		7625	7671	7717	7763	7808	7854	7900	7946	7992	8038	
9480		8083	8129	8175	8221	8267	8312	8358	8404	8450	8496	45-5
81		8541	8587	8633	8679	8725	8770	8816	8862	8908	8954	1-15
82		9000	9045	9091	9137	9183	9229	9274	9320	9366	9412	2-9
83		9458	9503	9549	9595	9641	9686	9732	9778	9824	9870	3-14
84		9915	9961	0007	0053	0099	0144	0190	0236	0282	0328	4-18
85	977	0373	0419	0465	0511	0556	0602	0648	0694	0740	0785	5-23
86		0831	0877	0923	0969	1014	1060	1106	1152	1197	1243	6-27
87		1289	1335	1381	1426	1472	1518	1564	1609	1655	1701	7-32
88		1747	1793	1838	1884	1930	1976	2021	2067	2113	2159	8-36
89		2204	2250	2296	2342	2388	2433	2479	2525	2571	2616	9-41
9490		2662	2708	2754	2799	2845	2891	2937	2982	3028	3074	
91		3120	3165	3211	3257	3303	3349	3394	3440	3486	3532	
92		3577	3623	3669	3715	3760	3806	3852	3898	3943	3989	
93		4035	4081	4126	4172	4218	4264	4309	4355	4401	4447	45-7
94		4492	4538	4584	4630	4675	4721	4767	4812	4858	4904	
95		4950	4995	5041	5087	5133	5178	5224	5270	5316	5361	
96		5407	5453	5499	5544	5590	5636	5681	5727	5773	5819	
97		5864	5910	5956	6002	6047	6093	6139	6184	6230	6276	
98		6322	6367	6413	6459	6505	6550	6596	6642	6688	6733	
99		6779	6825	6870	6916	6962	7007	7053	7099	7145	7190	
Numb	0	1	2	3	4	5	6	7	8	9	D	Pro.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9500	777.7236	7282	7327	7373	7419	7465	7510	7556	7602	7647		45-4
01	7693	7739	7785	7830	7876	7922	7967	8013	8059	8105		1-2
02	8153	8196	8242	8287	8333	8379	8424	8470	8516	8562		2-3
03	8607	8653	8699	8744	8790	8836	8881	8927	8973	9019		3-14
04	9064	9110	9156	9201	9247	9293	9338	9384	9430	9476		4-18
05	9521	9567	9613	9658	9704	9750	9795	9841	9887	9932		5-22
06	9978	0024	0069	0115	0161	0207	0252	0298	0344	0389		6-27
07	978.	0435	0481	0526	0572	0618	0663	0709	0755	0800		7-32
08	0892	0937	0983	1029	1074	1120	1166	1211	1257	1303		8-36
09	1348	1394	1440	1485	1531	1577	1622	1668	1714	1760		9-41
9510	1805	1851	1897	1942	1988	2033	2079	2125	2170	2216		
11	2262	2307	2353	2399	2444	2490	2536	2581	2627	2673		
12	2718	2764	2810	2855	2901	2947	2992	3038	3084	3129		
13	3175	3221	3266	3312	3358	3403	3449	3495	3540	3586		
14	3631	3677	3723	3768	3814	3860	3905	3951	3997	4042	45-6	
15	4088	4134	4179	4225	4270	4316	4362	4407	4453	4499		
16	4544	4590	4636	4681	4727	4773	4818	4864	4909	4955		
17	5001	5046	5092	5138	5183	5229	5274	5320	5366	5411		
18	5457	5503	5548	5594	5640	5685	5731	5776	5822	5868		
19	5913	5959	6005	6050	6096	6141	6187	6233	6278	6324		
9520	6369	6415	6461	6506	6552	6598	6643	6689	6734	6780		
21	6826	6871	6917	6962	7008	7054	7099	7145	7191	7236		
22	7282	7327	7373	7419	7464	7510	7555	7601	7647	7692		
23	7738	7783	7829	7875	7920	7966	8011	8057	8103	8148		
24	8194	8239	8285	8331	8376	8422	8467	8513	8559	8604		
25	8650	8695	8741	8787	8832	8878	8923	8969	9015	9060		
26	9106	9151	9197	9243	9288	9334	9379	9425	9470	9516		
27	9552	9607	9653	9698	9744	9790	9835	9881	9926	9972		
28	979.	0017	0063	0109	0154	0200	0245	0291	0337	0382	0428	
29	0473	0519	0564	0610	0656	0701	0747	0792	0838	0883		
9530	0929	0975	1020	1066	1111	1157	1202	1248	1294	1339		
31	1385	1430	1476	1521	1567	1613	1658	1704	1749	1795		
32	1840	1886	1931	1977	2023	2068	2114	2159	2205	2250		
33	2296	2341	2387	2433	2478	2524	2569	2615	2660	2706		
34	2751	2797	2843	2888	2934	2979	3025	3070	3116	3161	45-5	
35	3207	3253	3298	3344	3389	3435	3480	3526	3571	3617		
36	3662	3708	3754	3799	3845	3890	3936	3981	4027	4072		
37	4118	4163	4209	4254	4300	4346	4391	4437	4482	4528		
38	4573	4619	4664	4710	4755	4801	4846	4892	4937	4983		
39	5028	5074	5120	5165	5211	5256	5302	5347	5393	5438		
9540	5484	5529	5575	5620	5666	5711	5757	5802	5848	5893		
41	5939	5984	6030	6076	6121	6167	6212	6258	6303	6349		
42	6394	6440	6485	6531	6576	6622	6667	6713	6758	6804		
43	6849	6895	6940	6986	7031	7077	7122	7168	7213	7259		
44	7304	7350	7395	7441	7485	7532	7577	7623	7668	7714		
45	7759	7805	7850	7896	7941	7987	8032	8078	8123	8169		
46	8214	8260	8305	8351	8396	8442	8487	8533	8578	8624		
47	8669	8715	8760	8806	8851	8897	8942	8988	9033	9079		
48	9124	9170	9215	9261	9306	9352	9397	9442	9488	9533		
49	9579	9624	9670	9715	9761	9806	9852	9897	9943	9988		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 101000.

N. 95500. L. 980

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9550	0034	0079	0125	0170	0216	0261	0307	0352	0398	0443		
51	0488	0534	0579	0625	0670	0716	0761	0807	0852	0898		
52	0943	0989	1034	1080	1125	1170	1216	1261	1307	1352		
53	1398	1443	1489	1534	1580	1625	1671	1716	1761	1807		
54	1852	1898	1943	1989	2034	2080	2125	2171	2216	2261		
55	2307	2352	2398	2443	2489	2534	2580	2625	2671	2716	45-4	
56	2761	2807	2852	2898	2943	2989	3034	3080	3125	3170		
57	3216	3261	3307	3352	3398	3443	3489	3534	3579	3625		
58	3670	3716	3761	3807	3852	3897	3943	3988	4034	4079		
59	4125	4170	4215	4261	4306	4352	4397	4443	4488	4533		
9560	4579	4625	4670	4715	4761	4806	4851	4897	4942	4988		
61	5033	5079	5124	5169	5215	5260	5306	5351	5397	5442		
62	5487	5533	5578	5624	5669	5714	5760	5805	5851	5896		
63	5942	5987	6032	6078	6123	6169	6214	6259	6305	6350		
64	6396	6441	6486	6532	6577	6623	6668	6714	6759	6804		
65	6850	6895	6941	6986	7031	7077	7122	7168	7213	7258		
66	7304	7349	7395	7440	7485	7531	7576	7622	7667	7712		
67	7758	7803	7849	7894	7939	7985	8030	8075	8121	8166		
68	8212	8257	8302	8348	8393	8439	8484	8529	8575	8620		
69	8666	8711	8756	8802	8847	8892	8938	8983	9029	9074		
9570	9119	9165	9211	9256	9301	9346	9392	9437	9482	9528		
71	9573	9619	9664	9709	9755	9800	9845	9891	9936	9982		
72	9810	0027	0072	0118	0163	0208	0254	0299	0344	0390		
73	0481	0526	0571	0617	0662	0707	0753	0798	0844	0889		
74	0934	0980	1025	1070	1116	1161	1206	1252	1297	1342		
75	1388	1433	1479	1524	1569	1615	1660	1705	1751	1796		
76	1841	1887	1932	1977	2023	2068	2113	2159	2204	2250		
77	2295	2340	2386	2431	2476	2522	2567	2612	2658	2703	45-3	
78	2748	2794	2839	2884	2930	2975	3020	3066	3111	3156		
79	3202	3247	3293	3338	3383	3428	3474	3519	3564	3610		
9580	3655	3700	3746	3791	3836	3882	3927	3972	4018	4062		45
81	4108	4154	4199	4244	4290	4335	4380	4426	4471	4516		1-4
82	4562	4607	4652	4698	4743	4788	4834	4879	4924	4970		1-9
83	5015	5060	5105	5151	5196	5241	5287	5332	5377	5423		3-13
84	5468	5513	5559	5604	5649	5695	5740	5785	5831	5876		4-19
85	5921	5966	6012	6057	6102	6148	6193	6238	6284	6329		5-22
86	6374	6420	6465	6510	6555	6601	6646	6691	6737	6782		6-27
87	6827	6873	6918	6963	7008	7054	7099	7144	7190	7235		7-31
88	7280	7326	7371	7416	7461	7507	7552	7597	7643	7688		8-36
89	7733	7778	7824	7869	7914	7960	8005	8050	8095	8141		9-40
9590	8186	8231	8277	8322	8367	8412	8458	8503	8548	8594		
91	8639	8684	8729	8775	8820	8865	8911	8956	9001	9046		
92	9092	9137	9182	9228	9273	9318	9363	9409	9454	9499		
93	9544	9590	9635	9680	9726	9771	9816	9861	9907	9952		
94	9997	0042	0088	0133	0178	0223	0269	0314	0359	0405		
95	0450	0495	0540	0586	0631	0676	0721	0767	0812	0857		
96	0902	0948	0993	1038	1083	1129	1174	1219	1264	1310		
97	1355	1400	1445	1491	1536	1581	1626	1672	1717	1762		
98	1807	1853	1898	1943	1988	2034	2079	2124	2169	2215	45-2	
99	2260	2305	2350	2396	2441	2486	2531	2577	2622	2667		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

N. 96000. L. 982.

Logarithm

Num	0	1	2	3	4	5	6	7	8	9	D	Pro
9600	2712	2758	2803	2848	2892	2939	2984	3029	3074	3119		48
01	3165	3210	3255	3300	3346	3391	3436	3481	3527	3572		1
02	3617	3662	3707	3753	3798	3843	3888	3934	3979	4024		2
03	4069	4115	4160	4205	4250	4295	4341	4386	4431	4476		3
04	4522	4567	4612	4657	4702	4748	4793	4838	4883	4928		4
05	4974	5019	5064	5109	5155	5200	5245	5290	5335	5381		5
06	5426	5471	5516	5561	5607	5652	5697	5742	5787	5833		6
07	5878	5923	5968	6014	6059	6104	6149	6194	6240	6285		7
08	6330	6375	6420	6466	6511	6556	6601	6646	6692	6737		8
09	6782	6827	6872	6918	6963	7008	7053	7098	7143	7189		9
9610	7234	7279	7324	7369	7415	7460	7505	7550	7595	7641		
11	7685	7731	7776	7821	7867	7912	7957	8002	8047	8092		
12	8138	8183	8228	8273	8318	8364	8409	8454	8499	8544		
13	8589	8635	8680	8725	8770	8815	8860	8906	8951	8996		
14	9041	9086	9132	9177	9222	9257	9312	9357	9403	9448		
15	9493	9538	9583	9628	9674	9719	9764	9809	9854	9899		
16	9945	9990	0035	0080	0125	0170	0216	0261	0306	0351		
17	0396	0441	0486	0532	0577	0622	0667	0712	0757	0803		
18	0848	0893	0938	0983	1028	1073	1119	1164	1209	1254		
19	1299	1344	1390	1435	1480	1525	1570	1615	1660	1706	45.1	
9620	1751	1796	1841	1886	1931	1976	2022	2067	2112	2157		
21	2202	2247	2292	2338	2383	2428	2473	2518	2563	2608		
22	2654	2699	2744	2789	2834	2879	2924	2969	3015	3060		
23	3105	3150	3195	3240	3285	3331	3376	3421	3466	3511		
24	3556	3601	3646	3692	3737	3782	3827	3872	3917	3962		
25	4007	4053	4098	4143	4188	4233	4278	4323	4368	4413		
26	4459	4504	4549	4594	4639	4684	4729	4774	4819	4865		
27	4910	4955	5000	5045	5090	5135	5180	5225	5271	5316		
28	5361	5406	5451	5496	5541	5586	5631	5677	5722	5767		
29	5812	5857	5902	5947	5992	6037	6082	6128	6173	6218		
9630	6263	6308	6353	6398	6443	6488	6533	6579	6624	6669		
31	6714	6759	6804	6849	6894	6939	6984	7029	7075	7120		
32	7165	7210	7255	7300	7345	7390	7435	7480	7525	7571		
33	7616	7661	7706	7751	7796	7841	7886	7931	7976	8021		
34	8065	8111	8157	8202	8247	8292	8337	8382	8427	8472		
35	8517	8562	8607	8652	8697	8743	8788	8833	8878	8923		
36	8968	9013	9058	9103	9148	9193	9238	9283	9328	9374		
37	9419	9464	9509	9554	9599	9644	9689	9734	9779	9824		
38	9869	9914	9959	0004	0049	0095	0140	0185	0230	0275		
39	0320	0365	0410	0455	0500	0545	0590	0635	0680	0725		
9640	0770	0815	0860	0905	0951	0996	1041	1085	1131	1176	45	
41	1221	1266	1311	1356	1401	1446	1491	1536	1581	1626		
42	1671	1716	1761	1806	1851	1896	1942	1987	2031	2077		
43	2122	2167	2212	2257	2302	2347	2392	2437	2482	2527		
44	2572	2617	2662	2707	2752	2797	2842	2887	2932	2977		
45	3022	3067	3112	3157	3202	3247	3292	3338	3383	3428		
46	3473	3518	3563	3608	3653	3698	3743	3788	3833	3878		
47	3923	3968	4013	4058	4103	4148	4193	4238	4283	4328		
48	4373	4418	4463	4508	4553	4598	4643	4688	4733	4778		
49	4823	4868	4913	4958	5003	5048	5093	5138	5183	5228		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro

10 101000.

N. 96500. L. 984

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
984	5273	5318	5363	5408	5453	5498	5543	5588	5633	5678		
51	5723	5768	5813	5858	5903	5948	5993	6038	6083	6128		
52	6173	6218	6263	6308	6353	6398	6443	6488	6533	6578		
53	6623	6668	6713	6758	6803	6848	6893	6938	6983	7028		
54	7073	7118	7163	7208	7253	7298	7343	7388	7433	7478		
55	7523	7568	7613	7658	7703	7748	7793	7838	7883	7928		
56	7973	8018	8063	8108	8153	8198	8243	8288	8333	8378		
57	8422	8467	8512	8557	8602	8647	8692	8737	8782	8827		
58	8872	8917	8962	9007	9052	9097	9142	9187	9232	9277		
59	9322	9367	9412	9457	9502	9547	9592	9637	9682	9727		
660	9771	9816	9861	9906	9951	9996	0041	0086	0131	0176		
61	985	0221	0266	0311	0356	0401	0446	0491	0536	0581		
62	0670	0715	0760	0805	0850	0895	0940	0985	1030	1075	44-9	
63	1120	1165	1210	1255	1300	1345	1389	1434	1479	1524		
64	1569	1614	1659	1704	1749	1794	1839	1884	1929	1974		
65	2019	2064	2108	2153	2198	2243	2288	2333	2378	2423		
66	2468	2513	2558	2603	2648	2693	2737	2782	2827	2872		
67	2917	2962	3007	3052	3097	3142	3187	3232	3277	3321		
68	3366	3411	3456	3501	3546	3591	3636	3681	3726	3771		
69	3816	3861	3906	3951	3996	4041	4086	4131	4176	4220		
9670	4265	4310	4355	4399	4444	4489	4534	4579	4624	4669		
71	4714	4759	4804	4849	4893	4938	4983	5028	5073	5118		
72	5163	5208	5253	5298	5343	5387	5432	5477	5522	5567		
73	5612	5657	5702	5747	5791	5836	5881	5926	5971	6016		
74	6061	6106	6151	6196	6240	6285	6330	6375	6420	6465		
75	6510	6555	6600	6644	6689	6734	6779	6824	6869	6914		
76	6959	7003	7048	7093	7138	7183	7228	7273	7318	7363		
77	7407	7452	7497	7542	7587	7632	7677	7722	7767	7811		
78	7856	7901	7946	7991	8036	8081	8126	8170	8215	8260		
79	8305	8350	8395	8440	8484	8529	8574	8619	8664	8709		
9680	8753	8798	8843	8888	8933	8978	9023	9068	9112	9157		
81	9202	9247	9292	9337	9382	9426	9471	9516	9561	9606		
82	9651	9696	9740	9785	9830	9875	9920	9965	0010	0055		
83	986	0099	0144	0189	0234	0279	0324	0368	0413	0458	44-8	
84	0548	0593	0637	0682	0727	0772	0817	0862	0907	0951		
85	0996	1041	1086	1131	1176	1220	1265	1310	1355	1400		
86	1445	1489	1534	1579	1624	1669	1714	1758	1803	1848		
87	1893	1938	1983	2027	2072	2117	2162	2207	2252	2296		
88	2341	2386	2431	2476	2521	2565	2610	2655	2700	2745		
89	2790	2834	2879	2924	2969	3014	3058	3103	3148	3193		
9690	3238	3283	3327	3372	3417	3462	3507	3551	3596	3641		
91	3686	3731	3776	3820	3865	3910	3955	4000	4044	4089		
92	4134	4179	4224	4268	4313	4358	4403	4448	4493	4537		
93	4582	4627	4672	4717	4761	4806	4851	4896	4941	4985		
94	5030	5075	5120	5165	5209	5254	5299	5344	5389	5433		
95	5478	5523	5568	5613	5657	5702	5747	5792	5836	5881		
96	5926	5971	6016	6060	6105	6150	6195	6240	6284	6329		
97	6374	6419	6464	6508	6553	6598	6643	6687	6732	6777		
98	6822	6867	6911	6956	7001	7046	7090	7135	7180	7225		
99	7270	7314	7359	7404	7449	7493	7538	7583	7628	7673		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 97000. L. 986

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9700	986.7717	7762	7807	7852	7896	7941	7986	8031	8076	8120		
01	8165	8210	8255	8299	8344	8389	8434	8478	8523	8568		
02	8613	8657	8702	8747	8792	8837	8881	8926	8971	9016		
03	9060	9105	9150	9195	9239	9284	9329	9374	9418	9463		
04	9508	9553	9597	9642	9687	9732	9776	9821	9866	9911		
05	9955	0000	0045	0090	0134	0179	0224	0269	0313	0358	44-7	
06	987.0403	0448	0492	0537	0582	0627	0671	0716	0761	0806		
07	0850	0895	0940	0985	1029	1074	1119	1163	1208	1253		
08	1298	1342	1387	1432	1477	1521	1566	1611	1656	1700		
09	1745	1790	1834	1879	1924	1969	2013	2058	2103	2148		
9710	2192	2237	2282	2326	2371	2416	2461	2505	2550	2595		44-9
11	2640	2684	2729	2774	2818	2863	2908	2953	2997	3042		1-4
12	3087	3131	3176	3221	3266	3310	3355	3400	3444	3489		2-9
13	3534	3579	3623	3668	3713	3757	3802	3847	3892	3936		3-13
14	3981	4026	4070	4115	4160	4205	4249	4294	4339	4383		4-18
15	4428	4473	4517	4562	4607	4652	4696	4741	4786	4830		5-22
16	4875	4920	4964	5009	5054	5099	5143	5188	5233	5277		6-27
17	5322	5367	5411	5456	5501	5545	5590	5635	5680	5724		7-31
18	5769	5814	5858	5903	5948	5992	6037	6082	6126	6171		8-36
19	6216	6261	6305	6350	6395	6439	6484	6529	6573	6618		9-40
9720	6663	6707	6752	6797	6841	6886	6931	6975	7020	7065		
21	7109	7154	7199	7243	7288	7333	7377	7422	7467	7511		
22	7556	7601	7646	7690	7735	7780	7824	7869	7914	7958		
23	8003	8048	8092	8137	8182	8226	8271	8316	8360	8405		
24	8450	8494	8539	8583	8628	8673	8717	8762	8807	8851		
25	8896	8941	8985	9030	9075	9119	9164	9209	9253	9298		
26	9343	9387	9432	9477	9521	9566	9611	9655	9700	9745		
27	9789	9834	9878	9923	9968	0012	0057	0102	0146	0191	44-6	
28	988.0236	0280	0325	0370	0414	0459	0503	0548	0593	0637		
29	0682	0727	0771	0816	0861	0905	0950	0994	1039	1084		
9730	1128	1173	1218	1262	1307	1352	1396	1441	1485	1530		
31	1575	1619	1664	1709	1753	1798	1842	1887	1932	1976		
32	2021	2066	2110	2155	2200	2244	2289	2333	2378	2423		
33	2467	2512	2556	2601	2646	2690	2735	2780	2824	2869		
34	2913	2958	3003	3047	3092	3136	3181	3226	3270	3315		
35	3360	3404	3449	3493	3538	3583	3627	3672	3716	3761		
36	3806	3850	3895	3939	3984	4029	4073	4118	4162	4207		
37	4252	4296	4341	4386	4430	4475	4519	4564	4609	4653		
38	4698	4742	4787	4831	4876	4921	4965	5010	5054	5099		
39	5144	5188	5233	5277	5322	5367	5411	5456	5500	5545		
9740	5590	5634	5679	5723	5768	5813	5857	5902	5946	5991		
41	6035	6080	6125	6169	6214	6258	6303	6348	6392	6437		
42	6481	6526	6570	6615	6660	6704	6749	6793	6838	6882		
43	6927	6972	7016	7061	7105	7150	7194	7239	7284	7328		
44	7373	7417	7462	7506	7551	7596	7640	7685	7729	7774		
45	7818	7863	7908	7952	7997	8041	8086	8130	8175	8220		
46	8264	8309	8353	8398	8442	8487	8531	8576	8621	8665		
47	8710	8754	8799	8843	8888	8932	8977	9022	9066	9111		
48	9155	9200	9244	9289	9333	9378	9423	9467	9512	9556	44-5	
99	9601	9645	9690	9734	9779	9823	9868	9913	9957	0002		
Num	0	1	2	3	4	5	6	7	8	9	D	Pts.

to 101000

N. 97500. L. 989

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9750	989	0046	0091	0135	0180	0224	0269	0313	0358	0402	0447	
51		0492	0536	0581	0625	0670	0714	0759	0803	0848	0892	
52		0937	0981	1026	1071	1115	1160	1204	1249	1293	1338	
53		1382	1427	1471	1516	1560	1605	1649	1694	1738	1783	
54		1828	1872	1917	1961	2006	2050	2095	2139	2184	2228	
55		2273	2317	2362	2406	2451	2495	2540	2584	2629	2673	
56		2718	2762	2807	2851	2896	2940	2985	3030	3074	3119	
57		3163	3208	3252	3297	3341	3386	3430	3475	3519	3564	
58		3608	3653	3697	3742	3786	3831	3875	3920	3964	4009	
59		4053	4098	4142	4187	4231	4276	4320	4365	4409	4454	
9760		4498	4543	4587	4632	4676	4721	4765	4810	4854	4899	
61		4943	4988	5032	5077	5121	5166	5210	5255	5299	5344	
62		5388	5433	5477	5521	5566	5610	5655	5699	5744	5788	
63		5833	5877	5922	5966	6011	6055	6100	6144	6189	6233	
64		6278	6322	6367	6411	6456	6500	6545	6589	6634	6678	
65		6722	6767	6811	6856	6900	6945	6989	7034	7078	7123	
66		7167	7212	7256	7301	7345	7390	7434	7478	7523	7567	
67		7612	7656	7701	7745	7790	7834	7879	7923	7967	8012	
68		8057	8101	8145	8190	8234	8279	8323	8368	8412	8457	
69		8501	8546	8590	8634	8679	8723	8768	8812	8857	8901	
9770		8946	8990	9035	9079	9123	9168	9212	9257	9301	9346	444
71		9390	9435	9479	9523	9568	9612	9657	9701	9746	9790	
72		9835	9879	9923	9968	0012	0057	0101	0146	0190	0235	
73	990	0279	0323	0368	0412	0457	0501	0546	0590	0634	0679	
74		0723	0768	0812	0857	0901	0946	0990	1034	1079	1123	
75		1168	1212	1257	1301	1345	1390	1434	1479	1523	1568	
76		1612	1656	1701	1745	1790	1834	1878	1923	1967	2012	
77		2056	2101	2145	2189	2234	2278	2323	2367	2411	2456	
78		2500	2545	2589	2634	2678	2722	2767	2811	2856	2900	
79		2944	2989	3033	3078	3122	3167	3211	3255	3300	3344	
9780		3389	3433	3477	3522	3566	3611	3655	3699	3744	3788	
81		3833	3877	3921	3966	4010	4055	4099	4143	4188	4232	
82		4277	4321	4365	4410	4454	4499	4543	4587	4632	4676	
83		4721	4765	4809	4854	4898	4942	4987	5031	5076	5120	
84		5164	5209	5253	5298	5342	5386	5431	5475	5520	5564	
85		5608	5653	5697	5741	5786	5830	5875	5919	5963	6008	
86		6052	6096	6141	6185	6230	6274	6318	6363	6407	6452	
87		6496	6540	6585	6629	6673	6718	6762	6806	6851	6895	
88		6940	6984	7028	7073	7117	7161	7206	7250	7295	7339	
89		7383	7428	7472	7516	7561	7605	7649	7694	7738	7783	
9790		7827	7871	7916	7960	8004	8049	8093	8137	8182	8226	
91		8271	8315	8359	8403	8448	8492	8537	8581	8625	8670	
92		8714	8758	8803	8847	8891	8936	8980	9025	9069	9113	443
93		9158	9202	9246	9291	9335	9379	9424	9468	9512	9557	
94		9601	9645	9690	9734	9778	9823	9867	9911	9956	0000	
95	991	0044	0089	0133	0177	0222	0266	0310	0355	0399	0443	
96		0488	0532	0576	0621	0665	0709	0754	0798	0842	0887	
97		0931	0975	1020	1064	1108	1153	1197	1241	1286	1330	
98		1374	1419	1463	1507	1552	1596	1640	1685	1729	1773	
99		1818	1862	1906	1951	1995	2039	2083	2128	2172	2216	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 98000. L. 991.

Logarithms

Num	0	1	2	3	4	5	6	7	8	9	D	Pro.
9800	2261	2305	2349	2394	2438	2482	2527	2571	2615	2660		
01	4704	2748	2793	2837	2881	2925	2970	3014	3058	3103		
02	3147	3191	3236	3280	3324	3369	3413	3457	3501	3546		
03	3590	3634	3679	3723	3767	3812	3856	3900	3944	3989		
04	4033	4077	4122	4166	4210	4255	4299	4343	4387	4432		
05	4476	4520	4565	4609	4653	4697	4742	4786	4830	4875		
06	4919	4963	5007	5052	5096	5140	5185	5229	5273	5317		
07	5362	5406	5450	5495	5539	5583	5627	5672	5716	5760		
08	5805	5849	5893	5937	5982	6026	6070	6115	6159	6203		
09	6247	6292	6336	6380	6424	6469	6513	6557	6602	6646		
9810	6690	6734	6779	6823	6867	6911	6956	7000	7044	7088		
11	7133	7177	7221	7266	7310	7354	7398	7443	7487	7531		
12	7575	7620	7664	7708	7752	7797	7841	7885	7929	7974		
13	8018	8062	8107	8151	8195	8239	8284	8328	8372	8416		
14	8461	8505	8549	8593	8638	8682	8726	8770	8815	8859		
15	8903	8947	8992	9036	9080	9124	9169	9213	9257	9301	44-2	
16	9345	9390	9434	9478	9522	9567	9611	9655	9699	9744		
17	9788	9832	9876	9921	9965	0009	0053	0098	0142	0186		
18	992.0230	0275	0319	0363	0407	0451	0496	0540	0585	0628		
19	0673	0717	0761	0805	0850	0894	0938	0982	1026	1071		
9820	1115	1159	1203	1248	1292	1336	1380	1424	1469	1513		
21	1557	1601	1646	1690	1734	1778	1822	1867	1911	1955		
22	1999	2044	2088	2132	2176	2220	2265	2309	2353	2397		
23	2441	2486	2530	2574	2618	2662	2707	2751	2795	2839		
24	2884	2928	2972	3016	3060	3105	3149	3193	3237	3281		
25	3326	3370	3414	3458	3502	3547	3591	3635	3679	3723		
26	3768	3812	3856	3900	3944	3989	4033	4077	4121	4165		
27	4210	4254	4298	4342	4386	4431	4475	4519	4563	4607		
28	4651	4696	4740	4784	4828	4872	4917	4961	5005	5049		
29	5093	5138	5182	5226	5270	5314	5358	5403	5447	5491		
9830	5535	5579	5624	5668	5712	5756	5800	5844	5889	5933		
31	5977	6021	6065	6109	6154	6198	6242	6286	6330	6375		
32	6419	6463	6507	6551	6595	6640	6684	6728	6772	6816		
33	6860	6905	6949	6993	7037	7081	7125	7170	7214	7258		
34	7302	7346	7390	7435	7479	7523	7567	7611	7655	7699		
35	7744	7788	7832	7876	7920	7964	8009	8053	8097	8141		
36	8185	8229	8274	8318	8362	8406	8450	8494	8538	8583		
37	8627	8671	8715	8759	8803	8847	8892	8936	8980	9024	44-1	
38	9068	9112	9156	9201	9245	9289	9333	9377	9421	9465		
39	9510	9554	9598	9642	9686	9730	9774	9819	9863	9907		
9840	9951	9995	0039	0083	0128	0172	0216	0260	0304	0348		
41	993.0392	0436	0481	0525	0569	0613	0657	0701	0745	0789		
42	0834	0878	0922	0966	1010	1054	1098	1142	1187	1231		
43	1275	1319	1363	1407	1451	1495	1540	1584	1628	1672		
44	1716	1760	1804	1848	1893	1937	1981	2025	2069	2113		
45	2157	2201	2245	2290	2334	2378	2422	2466	2510	2554		
46	2598	2642	2687	2731	2775	2819	2863	2907	2951	2995		
47	3039	3083	3128	3172	3216	3260	3304	3348	3392	3436		
48	3480	3524	3569	3613	3657	3701	3745	3789	3833	3877		
49	3921	3965	4010	4054	4098	4142	4186	4230	4274	4318		
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 10100.

N. 98500. L. 993.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9850	993	4362	4406	4450	4494	4539	4583	4627	4671	4715	4759	44
51		4803	4847	4891	4935	4979	5024	5068	5112	5155	5200	1-4
52		5244	5288	5332	5376	5420	5464	5508	5552	5597	5641	2-9
53		5685	5729	5773	5817	5861	5905	5949	5993	6037	6081	3-13
54		6125	6170	6214	6258	6302	6346	6390	6434	6478	6522	4-18
55		6566	6610	6654	6698	6742	6787	6831	6875	6919	6963	5-22
56		7007	7051	7095	7139	7183	7227	7271	7315	7359	7403	6-26
57		7447	7492	7536	7580	7624	7668	7712	7756	7800	7844	7-31
58		7888	7932	7976	8020	8064	8108	8152	8196	8240	8285	8-35
59		8329	8373	8417	8461	8505	8549	8593	8637	8681	8725	44 9-40
9860		8759	8813	8857	8901	8945	8989	9033	9077	9121	9165	
61		9209	9254	9298	9342	9386	9430	9474	9518	9562	9606	
62		9650	9694	9738	9782	9826	9870	9914	9958	0002	0046	
63	994	0090	0134	0178	0222	0266	0310	0354	0398	0442	0487	
64		0531	0575	0619	0663	0707	0751	0795	0839	0883	0927	
65		0971	1015	1059	1103	1147	1191	1235	1279	1323	1367	
66		1411	1455	1499	1543	1587	1631	1675	1719	1763	1807	
67		1851	1895	1939	1983	2027	2071	2115	2159	2203	2247	
68		2291	2335	2379	2423	2467	2511	2555	2599	2643	2687	
69		2731	2775	2819	2863	2907	2951	2995	3039	3083	3127	
9870		3171	3215	3259	3303	3347	3391	3435	3479	3523	3567	
71		3611	3655	3699	3743	3787	3831	3875	3919	3963	4007	
72		4051	4095	4139	4183	4227	4271	4315	4359	4403	4447	
73		4491	4535	4579	4623	4667	4711	4755	4799	4843	4887	
74		4931	4975	5019	5063	5107	5151	5195	5239	5283	5327	
75		5371	5415	5459	5503	5547	5591	5635	5679	5723	5767	
76		5811	5855	5899	5943	5987	6031	6075	6119	6163	6207	
77		6250	6294	6338	6382	6426	6470	6514	6558	6602	6646	
78		6690	6734	6778	6822	6866	6910	6954	6998	7042	7086	
79		7130	7174	7218	7262	7306	7350	7394	7438	7481	7525	
9880		7569	7613	7657	7701	7745	7789	7833	7877	7921	7965	
81		8009	8053	8097	8141	8185	8229	8273	8317	8361	8404	
82		8448	8492	8536	8580	8624	8668	8712	8756	8800	8844	439
83		8888	8932	8976	9020	9064	9108	9152	9195	9239	9283	
84		9327	9371	9415	9459	9503	9547	9591	9635	9679	9723	
85		9767	9811	9855	9899	9942	9986	0030	0074	0118	0162	
86	995	0206	0250	0294	0338	0382	0426	0470	0514	0557	0601	
87		0645	0689	0733	0777	0821	0865	0909	0953	0997	1041	
88		1085	1128	1172	1215	1260	1304	1348	1392	1436	1480	
89		1524	1568	1612	1655	1699	1743	1787	1831	1875	1919	
9890		1963	2007	2051	2095	2139	2182	2226	2270	2314	2358	
91		2402	2446	2490	2534	2578	2621	2665	2709	2753	2797	
92		2841	2885	2929	2973	3017	3061	3104	3148	3192	3236	
93		3280	3324	3368	3412	3456	3500	3543	3587	3631	3675	
94		3719	3763	3807	3851	3895	3938	3982	4026	4070	4114	
95		4158	4202	4245	4290	4333	4377	4421	4465	4509	4553	
96		4597	4641	4685	4728	4772	4816	4860	4904	4948	4992	
97		5036	5080	5123	5167	5211	5255	5299	5343	5387	5431	
98		5474	5518	5562	5606	5650	5694	5738	5782	5825	5869	
99		5913	5957	6001	6045	6089	6133	6176	6222	6264	6308	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

N. 99000. L. 995.

Logarithm's

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9900	995	6352	6396	6440	6483	6527	6571	6615	6659	6703	6747	
01		6791	6834	6878	6922	6965	7010	7054	7098	7141	7185	
02		7229	7273	7317	7351	7405	7448	7492	7536	7580	7624	
03		7668	7712	7755	7799	7843	7887	7931	7975	8019	8062	
04		8106	8150	8194	8238	8282	8326	8369	8413	8457	8501	43.8
05		8545	8589	8632	8676	8720	8764	8808	8852	8895	8939	
06		8983	9027	9071	9115	9159	9202	9246	9290	9334	9378	
07		9422	9465	9509	9553	9597	9641	9685	9728	9772	9816	
08		9860	9904	9948	9991	10035	10079	10123	10167	10211	10254	
09	996	0298	0342	0386	0430	0473	0517	0561	0605	0649	0693	
9910		0736	0780	0824	0868	0912	0956	0999	1043	1087	1131	44
11		1175	1218	1262	1306	1350	1394	1438	1481	1525	1569	1-4
12		1613	1657	1701	1744	1788	1832	1876	1920	1963	2007	2-9
13		2051	2095	2139	2182	2226	2270	2314	2358	2401	2445	3-13
14		2489	2533	2577	2621	2664	2708	2752	2796	2839	2883	4-18
15		2927	2971	3015	3059	3102	3146	3190	3234	3277	3321	5-22
16		3365	3409	3453	3496	3540	3584	3628	3672	3715	3759	6-26
17		3803	3847	3891	3934	3978	4022	4066	4110	4153	4197	7-31
18		4241	4285	4329	4372	4416	4450	4504	4547	4591	4635	8-35
19		4679	4723	4766	4810	4854	4898	4941	4985	5029	5073	9-42
9920		5117	5160	5204	5248	5292	5336	5379	5423	5467	5511	
21		5554	5598	5642	5686	5730	5773	5817	5861	5905	5948	
22		5992	6036	6080	6123	6167	6211	6255	6299	6342	6386	
23		6430	6474	6517	6561	6605	6649	6692	6736	6780	6824	
24		6867	6911	6955	6999	7043	7086	7130	7174	7218	7261	
25		7305	7349	7393	7436	7480	7524	7568	7611	7655	7699	
26		7743	7786	7830	7874	7918	7961	8005	8049	8093	8136	
27		8180	8224	8268	8311	8355	8399	8443	8486	8530	8574	43.7
28		8618	8661	8705	8749	8793	8836	8880	8924	8968	9011	
29		9055	9099	9143	9186	9230	9274	9317	9351	9405	9449	
9930		9492	9536	9580	9624	9667	9711	9755	9799	9842	9886	
31		9930	9973	10017	10061	10105	0148	0192	0236	0280	0323	
32	967	0367	0411	0454	0498	0542	0586	0629	0673	0717	0761	
33		0804	0848	0892	0935	0979	1023	1067	1110	1154	1198	
34		1241	1285	1329	1373	1415	1460	1504	1547	1591	1635	
35		1679	1722	1766	1810	1853	1897	1941	1985	2028	2072	
36		2116	2159	2203	2247	2291	2334	2378	2422	2465	2509	
37		2553	2597	2640	2684	2728	2771	2815	2859	2902	2946	
38		2990	3034	3077	3121	3165	3208	3252	3296	3339	3383	
39		3427	3471	3514	3558	3602	3645	3689	3733	3776	3820	
9940		3864	3907	3951	3995	4039	4082	4126	4170	4213	4257	
41		4301	4344	4388	4432	4475	4519	4563	4606	4650	4694	
42		4737	4781	4825	4869	4912	4956	5000	5043	5087	5131	
43		5174	5218	5262	5305	5349	5393	5436	5480	5524	5567	
44		5611	5655	5698	5742	5786	5829	5873	5917	5960	6004	
45		6048	6091	6135	6179	6222	6266	6310	6353	6397	6441	
46		6484	6528	6572	6615	6659	6703	6746	6790	6834	6877	
47		6921	6965	7008	7052	7096	7139	7183	7227	7270	7314	
48		7358	7401	7445	7489	7532	7576	7620	7663	7707	7751	
49		7794	7838	7882	7925	7969	8012	8056	8100	8143	8187	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

to 10100.

N. 99500. L. 997.

Num	0	1	2	3	4	5	6	7	8	9	D	Pts.
9950	997	8231	8274	8318	8362	8405	8449	8493	8536	8580	8624	43.6
51		8667	8711	8754	8798	8842	8885	8929	8973	9016	9050	
52		9104	9147	9191	9235	9278	9322	9365	9409	9453	9496	
53		9540	9584	9627	9671	9714	9758	9802	9845	9889	9933	
54		9976	0020	0064	0107	0151	0195	0238	0282	0325	0369	
55	998	0413	0456	0500	0543	0587	0631	0674	0718	0762	0805	
56		0849	0892	0936	0980	1023	1067	1111	1154	1198	1241	
57		1285	1329	1372	1416	1459	1503	1547	1590	1634	1678	
58		1721	1765	1808	1852	1896	1939	1983	2026	2070	2114	
59		2157	2201	2244	2288	2332	2375	2419	2462	2506	2550	
9960		2593	2637	2681	2724	2768	2811	2855	2899	2942	2986	
61		3029	3073	3117	3160	3204	3247	3291	3335	3378	3422	
62		3465	3509	3552	3596	3640	3683	3727	3770	3814	3858	
63		3901	3945	3988	4032	4076	4119	4163	4206	4250	4294	
64		4337	4381	4424	4468	4511	4555	4599	4642	4686	4729	
65		4773	4817	4860	4904	4947	4991	5034	5078	5122	5165	
66		5209	5252	5296	5339	5383	5427	5470	5514	5557	5601	
67		5645	5688	5732	5775	5819	5862	5906	5950	5993	6037	
68		6080	6124	6167	6211	6255	6298	6342	6385	6429	6472	
69		6516	6559	6603	6647	6690	6734	6777	6821	6864	6908	
9970		6951	6995	7039	7082	7126	7169	7213	7256	7300	7344	
71		7387	7431	7474	7518	7561	7605	7648	7692	7735	7779	
72		7823	7866	7910	7953	7997	8040	8084	8127	8171	8215	43.5
73		8258	8302	8345	8389	8432	8476	8519	8563	8606	8650	
74		8694	8737	8781	8824	8868	8911	8955	8998	9042	9085	
75		9129	9173	9216	9260	9303	9347	9390	9434	9477	9521	
76		9564	9608	9651	9695	9738	9782	9826	9869	9913	9956	
77	999	0000	0043	0087	0130	0174	0217	0261	0304	0348	0391	
78		0435	0478	0522	0566	0609	0653	0696	0740	0783	0827	
79		0870	0914	0957	1001	1044	1088	1131	1175	1218	1262	
9.80		1305	1349	1392	1436	1479	1523	1566	1610	1653	1697	43.5
81		1740	1784	1828	1871	1915	1958	2002	2045	2089	2132	1-4
82		2176	2219	2263	2306	2350	2393	2437	2480	2524	2567	2-9
83		2611	2654	2698	2741	2785	2828	2871	2915	2959	3002	3-13
84		3045	3089	3133	3176	3220	3263	3307	3350	3394	3437	4-17
85		3481	3524	3568	3611	3655	3698	3742	3785	3829	3872	5-22
86		3916	3959	4003	4046	4089	4133	4176	4220	4264	4307	6-25
87		4350	4394	4437	4481	4524	4568	4611	4655	4698	4742	7-30
88		4785	4829	4872	4916	4959	5003	5046	5090	5133	5177	8-34
89		5222	5264	5307	5350	5394	5437	5481	5524	5568	5611	9-32
9990		5655	5698	5742	5785	5829	5872	5916	5959	6003	6046	
91		6089	6133	6176	6220	6263	6307	6350	6394	6437	6481	
92		6524	6568	6611	6655	6698	6741	6785	6828	6872	6915	
93		6959	7002	7046	7089	7133	7176	7220	7263	7306	7350	
94		7393	7437	7480	7524	7567	7611	7654	7698	7741	7784	
95		7828	7871	7915	7958	8002	8045	8089	8132	8176	8219	
96		8262	8306	8349	8393	8436	8480	8523	8566	8610	8653	
97		8697	8740	8784	8827	8871	8914	8957	9001	9044	9088	
98		9131	9175	9218	9262	9305	9348	9392	9435	9479	9522	
99		9566	9609	9652	9696	9739	9783	9826	9870	9913	9956	
Num	0	1	2	3	4	5	6	7	8	9	D	Pro.

A TABLE to Convert Sexagesimals into Decimals, & Contra.

	0	12	24	36	48
0.000	.000	.007	.014	.021	.028
1.017	.02	.023	.027	.03	
2.033	.037	.04	.043	.047	
3.050	.053	.057	.06	.063	
4.067	.07	.073	.077	.08	
5.083	.087	.09	.093	.097	
6.1	.103	.107	.11	.113	
7.117	.12	.123	.127	.13	
8.123	.137	.14	.143	.147	
9.150	.153	.157	.16	.163	
10.167	.17	.173	.177	.18	
11.183	.187	.19	.193	.197	
12.2	.203	.207	.21	.213	
13.217	.22	.223	.227	.23	
14.233	.237	.24	.243	.247	
15.25	.253	.257	.26	.263	
16.267	.27	.273	.277	.28	
17.283	.287	.29	.293	.297	
18.3	.303	.307	.31	.313	
19.317	.32	.323	.327	.33	
20.333	.337	.34	.343	.347	
21.35	.353	.357	.36	.363	
22.367	.37	.373	.377	.38	
23.383	.387	.39	.393	.397	
24.4	.403	.407	.41	.413	
25.417	.42	.423	.427	.43	
26.433	.437	.44	.443	.447	
27.45	.453	.457	.46	.463	
28.467	.47	.473	.477	.48	
29.483	.487	.49	.493	.497	
30.5	.503	.507	.51	.513	
31.517	.52	.523	.527	.53	
32.533	.537	.54	.543	.547	
33.550	.553	.557	.56	.563	
34.567	.57	.573	.577	.58	
35.583	.587	.59	.593	.597	
36.6	.603	.607	.61	.613	
37.617	.62	.623	.627	.63	
38.633	.637	.64	.643	.647	
39.65	.653	.657	.66	.663	
40.667	.67	.673	.677	.68	
41.683	.687	.69	.693	.697	
42.7	.703	.707	.71	.713	
43.717	.72	.723	.727	.73	
44.733	.737	.74	.743	.747	
45.75	.753	.757	.76	.763	
46.767	.77	.773	.777	.78	
47.783	.787	.79	.793	.797	
48.8	.803	.807	.81	.813	
49.817	.82	.823	.827	.83	
50.833	.837	.84	.843	.847	
51.85	.853	.857	.86	.863	
52.867	.87	.873	.877	.88	
53.883	.887	.89	.893	.897	
54.9	.903	.907	.91	.913	
55.917	.92	.923	.927	.93	
56.933	.937	.94	.943	.947	
57.95	.953	.957	.96	.963	
58.967	.97	.973	.977	.98	
59.983	.987	.99	.993	.997	

Num.		0	1	2	3	4	5	6	7	8	9
10000	0000	000	043	087	130	174	217	261	304	347	391
01		434	478	521	564	608	651	695	738	782	825
02		868	912	955	999	042	086	129	172	216	259
03	0001	303	346	389	433	476	520	563	607	650	693
04		737	780	824	867	910	954	997	041	084	127
05	0002	171	214	258	301	345	388	431	475	518	562
06		605	648	692	735	779	822	865	909	952	996
07	0003	039	082	126	169	213	256	299	343	386	429
08		473	516	560	603	646	690	733	777	820	864
09		907	950	994	037	080	124	167	211	254	297
10010	0004	341	384	427	471	514	558	601	644	688	731
11		775	818	861	905	948	991	035	078	122	165
12	0005	208	252	295	338	382	425	469	512	555	599
13		642	685	729	772	816	859	902	946	989	032
14	0006	076	119	163	206	249	293	336	379	423	466
15		509	553	596	640	683	726	770	813	856	900
16		943	986	030	073	117	160	203	247	290	333
17	0007	377	420	463	507	550	593	637	680	724	767
18		810	854	897	940	984	027	070	114	157	200
19	0008	244	287	330	374	417	460	504	547	590	634
10020		677	721	764	807	851	894	937	981	024	067
21	0009	111	154	197	241	284	327	371	414	457	501
22		544	587	631	674	717	761	804	847	891	934
23		977	021	064	107	151	194	237	281	324	367
24	0010	411	454	497	541	584	627	670	714	757	800
25		844	887	930	977	017	060	104	147	190	234
26	0011	277	320	364	407	450	494	537	580	623	667
27		710	753	797	840	883	927	970	013	057	100
28	0012	143	187	230	273	316	360	403	446	490	533
29		576	620	663	706	749	793	836	879	923	966
10030	0013	009	053	096	139	182	226	269	312	356	399
31		442	486	529	572	615	659	702	745	789	833
32		875	918	962	005	048	092	135	178	221	265
33	0014	308	351	395	438	481	525	568	611	654	698
34		741	784	827	871	914	957	001	044	087	130
35	0015	174	217	260	304	347	390	433	477	520	563
36		606	650	693	736	780	823	866	909	953	996
37	0016	039	082	126	169	212	256	299	342	385	429
38		472	515	558	602	645	688	731	775	818	861
39		904	948	991	034	078	121	164	207	251	294
10040	0017	337	380	424	467	510	553	597	640	683	726
41		770	813	856	899	943	986	029	072	116	159
42	0018	202	245	289	332	375	418	462	505	548	591
43		635	678	721	764	808	851	894	937	981	024
44	0019	067	110	153	197	240	283	326	370	413	456
45		499	543	586	629	672	716	759	802	845	888
46		932	975	018	061	105	148	191	234	278	321
47	0020	364	407	450	494	537	580	623	667	710	753
48		796	839	883	926	969	012	056	099	142	185
49	0021	228	271	315	358	401	444	488	531	574	617
Num.		0	1	2	3	4	5	6	7	8	9

The Use of the Table in the Margin explain'd.

TO find the Decimal of a Degree to every Minute and 12", or of a Minute to every Second and 12", look the Min. or Second in the first Column, against which, and under 0, 12, 24, 36, or 48. is the Decimal sought; so .09 of a Deg. is 5' 24", and .09 of a Min. is 5" 24".

To find the Log. of the Sine, Tangent, or Secant, to every Second and 12", proceed thus: Find the Log. of the Deg. and Min. in the following Table.

N ^o .	0	1	2	3	4	5	6	7	8	9
10050	0021	661	704	747	790	833	877	920	963	006
51	0022	093	136	179	222	266	309	352	395	438
52		525	568	611	654	698	741	784	827	870
53		957	000	043	086	130	173	216	259	302
54	0023	389	432	475	518	562	605	648	691	734
55		821	864	907	950	993	037	080	123	166
56	0024	253	296	339	382	425	469	512	555	598
57		684	728	771	814	857	900	944	987	030
58	0025	116	159	203	246	289	332	375	419	462
59		548	591	634	678	721	764	807	850	893
10060		980	023	066	109	152	196	239	282	325
61	0026	411	455	498	541	584	627	670	714	757
62		843	886	929	973	016	059	102	145	188
63	0027	275	318	361	404	447	491	534	577	620
64		706	749	793	836	879	922	965	008	051
65	0028	138	181	224	267	310	353	397	440	483
66		569	612	655	699	742	785	828	871	914
67	0029	001	044	087	130	173	216	259	303	346
68		432	475	518	561	605	648	691	734	777
69		863	906	950	993	036	079	122	165	208
10070	0030	295	338	381	424	467	510	553	597	640
71		726	769	812	855	898	942	985	028	071
72	0031	157	200	243	286	330	373	416	459	502
73		588	631	675	718	761	804	847	890	933
74	0032	019	063	106	149	192	235	278	321	364
75		450	494	537	580	623	666	709	752	795
76		882	925	968	011	054	097	140	183	226
77	0033	313	356	399	442	485	528	571	614	657
78		743	787	830	873	916	959	002	045	088
79	0034	174	217	261	304	347	390	433	476	519
10080		605	648	691	735	778	821	864	907	950
81	0035	036	079	122	165	208	251	295	338	381
82		467	510	553	596	639	682	725	768	811
83		898	941	984	027	067	113	156	199	242
84	0036	328	371	414	458	501	544	587	630	673
85		759	802	845	888	931	974	017	060	103
86	0037	190	233	276	319	362	405	448	491	534
87		620	663	706	749	792	835	878	922	965
88	0038	051	094	137	180	223	266	309	352	395
89		481	524	567	610	653	696	739	782	826
10090		912	955	998	041	084	127	170	213	256
91	0039	342	385	428	471	514	557	600	643	686
92		772	815	858	901	944	988	031	074	117
93	0040	203	246	289	332	375	418	461	504	547
94		633	676	719	762	805	848	891	934	977
95	0041	063	106	149	192	235	278	321	364	407
96		493	536	579	622	665	708	751	794	837
97		924	967	010	053	096	139	182	225	268
98	0042	354	397	440	483	526	569	612	655	698
99		784	827	870	913	956	999	042	085	128
Num.	0	1	2	3	4	5	6	7	8	9

The End of the Table of Logarithms.

T A B L E S

O F

Natural Sines, Tangents, Secants, Vers'd Sines,
And their Logarithms,
To every Minute of the QUADRANT.

against which is plac'd the Difference; which Difference multiply by the Decimal of the Second and 12th given, and add the Product to the Log. before found, their Summ is the Log. sought.

Ex. What is the Log. of the Sine of 1 Deg. 45' 5" 24th?

Ans. 8.4852182.

I find in the Table the Sine of 1 Deg. 45', viz. 305.385.

Log. 8.4848479. Diff. 41153.

Product 3703.77 .09

Sum 8.4852182 3703.77

Their Summ, viz. 8.4852182 is the Log. sought.

It may be done without the Table thus, Multiply 41153, the Diff. by 5th $\frac{4}{1000}$ (equal to 5th 24th) and divide the Product by 60, the Quotient will be 3703.77, as before.

If the Log. be given, take the nearest Log. that is less, and subtract it from the Log. given, then divide the Remainder by the common Diff. the Quotient is the Decimal of the Second and Third sought.

Ex. The Log. Sine 8.4852182 is given, What is the Deg. Min. Second and Third, that belongs to it? Ans. 1 Deg. 45' $\frac{9}{1000}$ or .09 the Decimal of) 5th 24th.

Log. given 8.4852182.77

1 Deg. 45' Log. 8.4848479

Diff. 41153 3703.77(.09

The Quotient .09 is the Decimal of the Answer, viz. 5th 24th.

It may be done without the Table thus, Multiply the Remainder 3703.77 by 60, and divide the Product by the Diff. 41153, the Quotient will be 5th $\frac{4}{1000}$ (equal to 5th 24th) as before.

Note, That the following Tables are placed in such order, that the Column of Logarithms on each side the Differences are Complements Arithmetical to each other, and the Column of Differences in the middle is common to them both.

c. N. Sin.			L. Sin.			Diff.			Infin.			Infin.			60			o. N. Ta.			L. Tan.			Diff.		
o			o			o			o			o			o			o			o			o		
1	2.909	6.4637261	3010300	13.5362739	343774682	59	1	2.909	6.4637261	3010301	1	2.909	6.4637261	3010301	1	2.909	6.4637261	3010301	1	2.909	6.4637261	3010301	1	2.909		
2	5.818	6.7647561	1760912	13.2352439	1788734.8	58	2	5.818	6.7647562	1760913	2	5.818	6.7647562	1760913	2	5.818	6.7647562	1760913	2	5.818	6.7647562	1760913	2	5.818		
3	8.727	6.9408473	1249387	13.0591527	11459157.4	57	3	8.727	6.9408475	1249388	3	8.727	6.9408475	1249388	3	8.727	6.9408475	1249388	3	8.727	6.9408475	1249388	3	8.727		
4	11.636	7.0657860	969100	12.9342140	8594368.9	56	4	11.636	7.0657863	969101	4	11.636	7.0657863	969101	4	11.636	7.0657863	969101	4	11.636	7.0657863	969101	4	11.636		
5	14.544	7.1626960	791811	12.8373040	6875496.0	55	5	14.544	7.1626964	791812	5	14.544	7.1626964	791812	5	14.544	7.1626964	791812	5	14.544	7.1626964	791812	5	14.544		
6	17.453	7.2418771	669468	12.7581229	5729580.9	54	6	17.453	7.2418778	669470	6	17.453	7.2418778	669470	6	17.453	7.2418778	669470	6	17.453	7.2418778	669470	6	17.453		
7	20.362	7.3088239	579918	12.6911761	4911070.2	53	7	20.362	7.3088248	579921	7	20.362	7.3088248	579921	7	20.362	7.3088248	579921	7	20.362	7.3088248	579921	7	20.362		
8	23.271	7.3668157	511524	12.6331843	4297187.3	52	8	23.271	7.3668169	511527	8	23.271	7.3668169	511527	8	23.271	7.3668169	511527	8	23.271	7.3668169	511527	8	23.271		
9	26.180	7.4179681	457574	12.5820319	3819723.0	51	9	26.180	7.4179696	457577	9	26.180	7.4179696	457577	9	26.180	7.4179696	457577	9	26.180	7.4179696	457577	9	26.180		
10	29.089	7.4637255	413926	12.5362745	3437751.6	50	10	29.089	7.4637273	413930	10	29.089	7.4637273	413930	10	29.089	7.4637273	413930	10	29.089	7.4637273	413930	10	29.089		
11	31.998	7.5051181	377884	12.4948819	3125229.7	49	11	31.998	7.5051203	377888	11	31.998	7.5051203	377888	11	31.998	7.5051203	377888	11	31.998	7.5051203	377888	11	31.998		
12	34.906	7.5429055	347619	12.4570935	2864794.8	48	12	34.906	7.5429091	347624	12	34.906	7.5429091	347624	12	34.906	7.5429091	347624	12	34.906	7.5429091	347624	12	34.906		
13	37.815	7.5776684	321846	12.4223316	2644426.9	47	13	37.815	7.5776715	321851	13	37.815	7.5776715	321851	13	37.815	7.5776715	321851	13	37.815	7.5776715	321851	13	37.815		
14	40.724	7.6098530	299630	12.3901470	2455540.2	46	14	40.724	7.6098566	299635	14	40.724	7.6098566	299635	14	40.724	7.6098566	299635	14	40.724	7.6098566	299635	14	40.724		
15	43.633	7.6398160	280285	12.3601840	2291838.5	45	15	43.633	7.6398201	280291	15	43.633	7.6398201	280291	15	43.633	7.6398201	280291	15	43.633	7.6398201	280291	15	43.633		
16	46.542	7.6678445	263288	12.3321555	2148599.5	44	16	46.542	7.6678492	263294	16	46.542	7.6678492	263294	16	46.542	7.6678492	263294	16	46.542	7.6678492	263294	16	46.542		
17	49.451	7.6941733	248233	12.3058267	2022212.2	43	17	49.451	7.6941786	248240	17	49.451	7.6941786	248240	17	49.451	7.6941786	248240	17	49.451	7.6941786	248240	17	49.451		
18	52.360	7.7189966	234809	12.2810034	1909868.0	42	18	52.360	7.7189966	234815	18	52.360	7.7189966	234815	18	52.360	7.7189966	234815	18	52.360	7.7189966	234815	18	52.360		
19	55.268	7.7424775	222762	12.2575225	1809349.6	41	19	55.268	7.7424841	222769	19	55.268	7.7424841	222769	19	55.268	7.7424841	222769	19	55.268	7.7424841	222769	19	55.268		
20	58.177	7.7647537	211890	12.2352463	1718883.1	40	20	58.177	7.7647610	211898	20	58.177	7.7647610	211898	20	58.177	7.7647610	211898	20	58.177	7.7647610	211898	20	58.177		
21	61.086	7.7859427	202031	12.2140573	1637032.5	39	21	61.086	7.7859508	202039	21	61.086	7.7859508	202039	21	61.086	7.7859508	202039	21	61.086	7.7859508	202039	21	61.086		
22	63.995	7.8061458	193049	12.1938542	1562622.8	38	22	63.995	7.8061547	193057	22	63.995	7.8061547	193057	22	63.995	7.8061547	193057	22	63.995	7.8061547	193057	22	63.995		
23	66.904	7.8254507	184821	12.1745493	1494683.7	37	23	66.904	7.8254604	184840	23	66.904	7.8254604	184840	23	66.904	7.8254604	184840	23	66.904	7.8254604	184840	23	66.904		
24	69.813	7.8435938	177285	12.1560662	1432406.1	36	24	69.813	7.8435944	177294	24	69.813	7.8435944	177294	24	69.813	7.8435944	177294	24	69.813	7.8435944	177294	24	69.813		
25	72.721	7.8616623	170330	12.1383377	1375110.8	35	25	72.721	7.8616738	170339	25	72.721	7.8616738	170339	25	72.721	7.8616738	170339	25	72.721	7.8616738	170339	25	72.721		
26	75.630	7.8786953	163901	12.1212047	1322222.9	34	26	75.630	7.8787077	163911	26	75.630	7.8787077	163911	26	75.630	7.8787077	163911	26	75.630	7.8787077	163911	26	75.630		
27	78.539	7.8950854	157939	12.1049146	1273252.6	33	27	78.539	7.8950988	157950	27	78.539	7.8950988	157950	27	78.539	7.8950988	157950	27	78.539	7.8950988	157950	27	78.539		
28	81.448	7.9108793	152397	12.0891207	1227780.3	32	28	81.448	7.9108938	152406	28	81.448	7.9108938	152406	28	81.448	7.9108938	152406	28	81.448	7.9108938	152406	28	81.448		
29	84.357	7.9241190	147229	12.0738810	1185444.0	31	29	84.357	7.9241344	147240	29	84.357	7.9241344	147240	29	84.357	7.9241344	147240	29	84.357	7.9241344	147240	29	84.357		
30	87.265	7.9398419	142400	12.0591581	1145930.1	30	30	87.265	7.9398584	142412	30	87.265	7.9398584	142412	30	87.265	7.9398584	142412	30	87.265	7.9398584	142412	30	87.265		
31	90.174	7.9550819	137879	12.0449181	1108965.6	29	31	90.174	7.9550996	137890	31	90.174	7.9550996	137890	31	90.174	7.9550996	137890	31	90.174	7.9550996	137890	31	90.174		
32	93.083	7.9688698	133636	12.0311302	1074311.4	28	32	93.087	7.9688886	133648	32	93.087	7.9688886	133648	32	93.087	7.9688886	133648	32	93.087	7.9688886	133648	32	93.087		
33	95.992	7.9822334	129646	12.0177666	1041757.4	27	33	95.996	7.9822534	129658	33	95.996	7.9822534	129658	33	95.996	7.9822534	129658	33	95.996	7.9822534	129658	33	95.996		
34	98.900	7.9951980	125887	12.0048020	1011118.5	26	34	98.905	7.9952192	125900	34	98.905	7.9952192	125900	34	98.905	7.9952192	125900	34	98.905	7.9952192	125900	34	98.905		
35	101.809	8.0077867	122340	11.9922133	982230.3	25	35	101.814	8.0078092	122353	35	101.814	8.0078092	122353	35	101.814	8.0078092	122353	35	101.814	8.0078092	122353	35	101.814		
36	104.718	8.0200207	118988	11.9799793	954947.1	24	36	104.724	8.0200445	119001	36	104.724	8.0200445	119001	36	104.724	8.0200445	119001	36	104.724	8.0200445	119001	36	104.724		
37	107.627	8.0319195	115814	11.9680805	929138.69	23	37	107.633	8.0319446	115828	37	107.633	8.0319446	115828	37	107.633	8.0319446	115828	37	107.633	8.0319446	115828	37	107.633		
38	110.535	8.0435079	112805	11.9564991	904688.63	22	38	110.542	8.0435274	112840	38	110.542	8.0435274	112840	38	110.542	8.0435274	112840	38	110.542	8.0435274	112840	38	110.542		
39	113.444	8.0547814	109949	11.9452186	881492.44	21	39	113.451	8.0548094	109963	39	113.451	8.0548094	109963	39	113.451	8.0548094	109963	39	113.451	8.0548094	109963	39	113.451		
40	116.353	8.0657763	106649	11.9342237	859456.09	20	40	116.361	8.0658057	106664	40	116.361	8.0658057	106664	40	116.361	8.0658057	106664	40	116.361	8.0658057	106664	40	116.361		
41	119.261	8.0764997	104649	11.9235003	838494.70	19	41	119.270	8.0765306	104664	41	119.270	8.0765306	104664	41	119.270	8.0765306	104664	41	119.270.						

Infinit.	Infinit.	60	N. Sec.	L. Sec.	D.		
13.5362739	34377466.7	59	0 10000.000	10.0000000	0 100000000	100000000	60
13.2352438	17188731.9	58	1 10000.000	10.0000000	0 100000000	9999.999	59
13.0591525	11459153.0	57	2 10000.002	10.0000001	1 9.9999999	9999.998	58
12.9342137	8594363.0	56	3 10000.004	10.0000002	1 9.9999998	9999.996	57
12.8373036	6875488.7	55	4 10000.007	10.0000003	2 9.9999997	9999.993	56
12.7581222	5729572.1	54	5 10000.011	10.0000007	2 9.9999995	9999.989	55
12.6911752	4911060.0	53	6 10000.016	10.0000007	2 9.9999993	9999.984	54
12.6331831	4297175.7	52	7 10000.021	10.0000009	3 9.9999991	9999.979	53
12.5820304	3819709.9	51	8 10000.027	10.0000012	3 9.9999988	9999.973	52
12.5362727	3437737.1	50	9 10000.034	10.0000015	3 9.9999985	9999.966	51
12.4948797	3125213.7	49	10 10000.042	10.0000018	4 9.9999982	9999.958	50
12.4570909	2864777.2	48	11 10000.051	10.0000022	4 9.9999978	9999.949	49
12.4223285	2644408.0	47	12 10000.051	10.0000026	4 9.9999974	9999.943	48
12.3901434	2455519.8	46	13 10000.072	10.0000031	5 9.9999969	9999.924	47
12.3601799	2291816.6	45	14 10000.083	10.0000036	5 9.9999964	9999.917	46
12.3321508	2148576.2	44	15 10000.095	10.0000041	6 9.9999959	9999.905	45
12.3058214	2022187.5	43	16 10000.108	10.0000047	6 9.9999953	9999.892	44
12.2809974	1902841.9	42	17 10000.122	10.0000053	7 9.9999947	9999.873	43
12.2575159	1803220.0	41	18 10000.137	10.0000060	7 9.9999940	9999.862	42
12.2352390	1718854.0	40	19 10000.153	10.0000066	8 9.9999934	9999.847	41
12.2140492	1637001.9	39	20 10000.170	10.0000073	8 9.9999927	9999.820	40
12.1938453	1562590.8	38	21 10000.187	10.0000081	9 9.9999919	9999.813	39
12.1745396	1494650.2	37	22 10000.205	10.0000089	9 9.9999911	9999.795	38
12.1560555	1432371.2	36	23 10000.224	10.0000097	9 9.9999903	9999.776	37
12.1383262	1375074.5	35	24 10000.244	10.0000106	9 9.9999894	9999.756	36
12.1212923	1322185.1	34	25 10000.265	10.0000115	9 9.9999885	9999.735	35
12.1049012	1273213.4	33	26 10000.286	10.0000124	9 9.9999876	9999.713	34
12.0891062	1227739.6	32	27 10000.308	10.0000134	10 9.9999866	9999.691	33
12.0738656	1185401.8	31	28 10000.331	10.0000144	10 9.9999856	9999.668	32
12.0591416	1145386.5	30	29 10000.355	10.0000155	11 9.9999845	9999.644	31
12.0449004	1108920.5	29	30 10000.380	10.0000165	11 9.9999835	9999.619	30
12.0311114	1074264.8	28	31 10000.406	10.0000177	12 9.9999823	9999.593	29
12.0177466	1041709.2	27	32 10000.433	10.0000188	12 9.9999812	9999.566	28
12.0047803	1011069.0	26	33 10000.461	10.0000200	12 9.9999800	9999.539	27
11.9921903	982179.4	25	34 10000.489	10.0000212	13 9.9999788	9999.511	26
11.9799555	954594.7	24	35 10000.518	10.0000225	13 9.9999775	9999.482	25
11.9680554	929084.8	23	36 10000.548	10.0000238	13 9.9999762	9999.452	24
11.9564726	904633.3	22	37 10000.579	10.0000252	14 9.9999748	9999.421	23
11.9451906	881435.7	21	38 10000.611	10.0000265	14 9.9999735	9999.389	22
11.9341943	859397.9	20	39 10000.644	10.0000279	15 9.9999721	9999.356	21
11.9234694	838435.0	19	40 10000.677	10.0000294	15 9.9999706	9999.323	20
11.9130030	818470.4	18	41 10000.711	10.0000309	15 9.9999691	9999.289	19
11.9027828	799434.3	17	42 10000.746	10.0000324	16 9.9999676	9999.254	18
11.8927975	781263.4	16	43 10000.782	10.0000340	16 9.9999660	9999.218	17
11.8830366	763900.0	15	44 10000.819	10.0000356	16 9.9999644	9999.181	16
11.8734901	747291.6	14	45 10000.857	10.0000372	17 9.9999628	9999.143	15
11.8641490	731389.9	13	46 10000.896	10.0000389	17 9.9999611	9999.104	14
11.8550044	716150.7	12	47 10000.935	10.0000406	17 9.9999594	9999.065	13
11.8460484	701533.4	11	48 10000.975	10.0000423	17 9.9999577	9999.025	12
11.8372733	687500.8	10	49 10001.016	10.0000441	18 9.9999559	9998.984	11
11.8286718	674018.5	9	50 10001.058	10.0000459	18 9.9999541	9998.942	10
11.8202374	661054.7	8	51 10001.101	10.0000478	19 9.9999522	9998.899	9
11.8119636	648580.8	7	52 10001.145	10.0000497	19 9.9999503	9998.855	8
11.8038444	636567.4	6	53 10001.189	10.0000516	19 9.9999484	9998.811	7
11.7958741	624991.5	5	54 10001.234	10.0000536	20 9.9999464	9998.766	6
11.7880474	613829.0	4	55 10001.280	10.0000556	20 9.9999444	9998.720	5
11.7803592	603058.2	3	56 10001.327	10.0000576	21 9.9999424	9998.673	4
11.7728047	592658.7	2	57 10001.375	10.0000597	21 9.9999403	9998.625	3
11.7653792	582611.7	1	58 10001.424	10.0000618	22 9.9999382	9998.576	2
11.7580785	572899.6	0	59 10001.473	10.0000640	22 9.9999360	9998.527	1
L. Tan.	N. Tan.	89	60 10001.522	10.0000662	22 9.9999338	9998.477	0

I	N. Sin	L. Sin.	Diff.				I	N. Ta.	L. Tan.	Diff.
0	174.524	8.2418553		11.7581447	572986.88	60	0	174.551	8.2419215	71800
1	177.432	8.2490332	71779	11.7509668	563594.62	59	1	177.460	8.2491015	70634
2	180.341	8.2560943	70611	11.7439057	554505.34	58	2	180.370	8.2561649	69504
3	183.249	8.2630424	69481	11.7369576	545704.63	57	3	183.280	8.2631153	68410
4	186.158	8.2698810	68386	11.7301190	537178.96	56	4	186.190	8.2699563	67349
5	189.066	8.2766136	67326	11.7233864	528915.64	55	5	189.100	8.2766912	66312
6	191.974	8.2832434	66298	11.7167566	520901.72	54	6	192.010	8.2833234	65325
7	194.883	8.2897734	65300	11.7102266	513129.02	53	7	194.920	8.2898559	64358
8	197.791	8.2962067	64333	11.7037933	505583.96	52	8	197.830	8.2962917	63418
9	200.699	8.3025460	63393	11.6974540	498257.62	51	9	200.740	8.3026335	62507
10	203.608	8.3087941	62481	11.6912059	491140.62	50	10	203.650	8.3088842	61620
11	206.516	8.3149536	61595	11.6850464	484224.11	49	11	206.560	8.3150461	60759
12	209.424	8.3210269	60733	11.6789731	477499.74	48	12	209.470	8.3211221	59922
13	212.332	8.3270163	59894	11.6729837	470959.61	47	13	212.380	8.3271143	59106
14	215.241	8.3329243	59080	11.6670757	464596.25	46	14	215.291	8.3330249	58314
15	218.149	8.3387529	58286	11.6612471	458402.60	45	15	218.201	8.3388563	57542
16	221.057	8.3445043	57514	11.6554957	452371.95	44	16	221.111	8.3446105	56790
17	223.965	8.3501805	56762	11.6498195	446497.95	43	17	224.021	8.3502895	56058
18	226.873	8.3557835	56030	11.6442165	440774.58	42	18	226.932	8.3558953	55344
19	229.781	8.3613150	55315	11.6386850	435196.12	41	19	229.842	8.3614297	54648
20	232.690	8.3667769	54519	11.6332231	429757.13	40	20	232.753	8.3668945	53970
21	235.598	8.3721710	53741	11.6278290	424452.45	39	21	235.663	8.3722915	53308
22	238.506	8.3774988	52983	11.6225012	419277.17	38	22	238.574	8.3776223	52663
23	241.414	8.3827620	52202	11.6172380	414226.60	37	23	241.484	8.3828886	52032
24	244.322	8.3879622	51386	11.6120378	409296.29	36	24	244.395	8.3880918	51418
25	247.230	8.3931008	50785	11.6068992	404482.01	35	25	247.305	8.3932336	50816
26	250.138	8.3981793	50197	11.6018207	399779.69	34	26	250.216	8.3983152	50229
27	253.046	8.4031990	49624	11.5968010	395185.49	33	27	253.127	8.4033381	49656
28	255.954	8.4081614	49062	11.5918386	390695.71	32	28	256.038	8.4083307	49095
29	258.862	8.4130676	48514	11.5869324	386306.83	31	29	258.948	8.4132132	48547
30	261.769	8.4179190	47978	11.5820810	382015.50	30	30	261.859	8.4180679	48011
31	264.677	8.4227168	47453	11.5772832	377818.49	29	31	264.770	8.4228690	47486
32	267.585	8.4274621	46940	11.5725379	373712.73	28	32	267.681	8.4276176	46974
33	270.493	8.4321561	46438	11.5678439	369695.28	27	33	270.592	8.4323150	46472
34	273.401	8.4367995	45945	11.5632001	365763.32	26	34	273.503	8.4369632	45981
35	276.309	8.4413944	45465	11.5586056	361914.14	25	35	276.414	8.4415603	45500
36	279.216	8.4459405	44993	11.5540591	358145.17	24	36	279.325	8.4461103	45028
37	282.124	8.4504402	44531	11.5495598	354453.91	23	37	282.236	8.4506131	44568
38	285.032	8.4548934	44079	11.5451066	350838.00	22	38	285.148	8.4550699	44115
39	287.940	8.4593013	43636	11.5406987	347295.15	21	39	288.059	8.4594814	43672
40	290.848	8.4636649	43201	11.5363351	343823.16	20	40	290.970	8.4638486	43239
41	293.755	8.4679850	42776	11.5320150	340419.94	19	41	293.882	8.4681725	42813
42	296.662	8.4722626	42358	11.5277374	337083.45	18	42	296.793	8.4724538	42395
43	299.570	8.4764984	41948	11.5235016	333811.76	17	43	299.705	8.4766933	41987
44	302.478	8.4806932	41547	11.5193068	330603.00	16	44	302.616	8.4808920	41585
45	305.385	8.4848479	41153	11.5151521	327455.36	15	45	305.528	8.4850505	41191
46	308.293	8.4889632	40766	11.5110368	324367.13	14	46	308.439	8.4891696	40806
47	311.200	8.4930398	40386	11.5069602	321336.63	13	47	311.351	8.4932502	40426
48	314.108	8.4970784	40014	11.5029216	318362.25	12	48	314.263	8.4972928	40054
49	317.015	8.5010798	39649	11.4989202	315442.46	11	49	317.174	8.5012982	39689
50	319.922	8.5050447	39289	11.4949553	312575.77	10	50	320.086	8.5052671	39330
51	322.830	8.5089736	38937	11.4910264	309760.74	9	51	322.998	8.5092001	38977
52	325.737	8.5128673	38591	11.4871327	306995.98	8	52	325.910	8.5130978	38632
53	328.644	8.5167264	38250	11.4832736	304280.17	7	53	328.822	8.5169610	38292
54	331.552	8.5205514	37916	11.4794486	301612.01	6	54	331.734	8.5207902	37958
55	334.459	8.5243430	37587	11.4756570	298990.26	5	55	334.646	8.5245860	37630
56	337.366	8.5281017	37264	11.4718983	296413.73	4	56	337.557	8.5283430	37307
57	340.273	8.5318281	36947	11.4681719	293881.24	3	57	340.471	8.5320797	36990
58	343.181	8.5355228	36635	11.4644772	291391.69	2	58	343.383	8.5357757	36679
59	346.088	8.5391863	36329	11.4608137	288943.98	1	59	346.295	8.5394466	36372
60	349.995	8.5428192		11.4571808	286537.08	0	60	349.208	8.5430838	
			Diff.	L. Sec.	N. Sec.	88				Diff.

			I N. Sec.			L. Sec.			D.		
11.7580785	572899.6280		0	10001.523	10.0000662	9.9999338	9998.477	60			
11.7508985	563505.9059		1	10001.574	10.0000084	9.9999916	9998.426	59			
11.7438351	554415.1758		2	10001.626	10.0000706	9.9999294	9998.374	58			
11.7368847	545613.0057		3	10001.679	10.0000929	9.9999271	9998.321	57			
11.7300437	537085.8756		4	10001.733	10.0000773	9.9999247	9998.267	56			
11.7233088	528821.0955		5	10001.788	10.0000776	9.9999224	9998.212	55			
11.7166766	520806.7354		6	10001.843	10.0000800	9.9999200	9998.157	54			
11.7101441	513031.5753		7	10001.899	10.0000825	9.9999175	9998.101	53			
11.7037083	505485.0652		8	10001.956	10.0000850	9.9999150	9998.044	52			
11.6973665	498157.2651		9	10002.014	10.0000875	9.9999125	9997.986	51			
11.6911158	491038.8150		10	10002.073	10.0000900	9.9999100	9997.927	50			
11.6849538	484120.8449		11	10002.133	10.0000926	9.9999074	9997.867	49			
11.6788779	477395.0148		12	10002.194	10.0000953	9.9999047	9997.806	48			
11.6728857	470853.4347		13	10002.255	10.0000979	9.9999021	9997.745	47			
11.6669751	464488.6246		14	10002.317	10.0001006	9.9998994	9997.683	46			
11.6611437	458293.3145		15	10002.380	10.0001034	9.9998966	9997.620	45			
11.6553895	452261.4144		16	10002.444	10.0001061	9.9998939	9997.556	44			
11.6497105	446385.9643		17	10002.509	10.0001088	9.9998911	9997.491	43			
11.6441047	440661.1342		18	10002.575	10.0001118	9.9998882	9997.425	42			
11.6385703	435081.2241		19	10002.641	10.0001147	9.9998853	9997.359	41			
11.6331055	429640.7740		20	10002.708	10.0001176	9.9998824	9997.292	40			
11.6277085	424334.6439		21	10002.776	10.0001206	9.9998794	9997.224	39			
11.6223777	419157.9038		22	10002.845	10.0001236	9.9998764	9997.155	38			
11.6171114	414105.8837		23	10002.915	10.0001266	9.9998734	9997.085	37			
11.6119032	409174.1236		24	10002.986	10.0001297	9.9998703	9997.014	36			
11.6065664	404358.3735		25	10003.058	10.0001328	9.9998672	9996.943	35			
11.6016848	399654.6034		26	10003.130	10.0001359	9.9998641	9996.871	34			
11.5966616	395058.9533		27	10003.203	10.0001391	9.9998609	9996.798	33			
11.5916963	390567.7132		28	10003.277	10.0001423	9.9998577	9996.724	32			
11.5867868	386177.3831		29	10003.352	10.0001456	9.9998544	9996.649	31			
11.5819321	381884.6930		30	10003.428	10.0001488	9.9998512	9996.573	30			
11.5771310	377686.1329		31	10003.505	10.0001522	9.9998478	9996.496	29			
11.5723824	373578.9228		32	10003.582	10.0001555	9.9998445	9996.419	28			
11.5676850	369560.0127		33	10003.660	10.0001589	9.9998411	9996.341	27			
11.5630378	365626.5926		34	10003.739	10.0001624	9.9998376	9996.262	26			
11.5584397	361775.9625		35	10003.819	10.0001658	9.9998342	9996.185	25			
11.5538897	358005.5324		36	10003.900	10.0001694	9.9998306	9996.101	24			
11.5493869	354312.8223		37	10003.982	10.0001729	9.9998271	9996.019	23			
11.5449301	350695.4622		38	10004.065	10.0001766	9.9998235	9995.936	22			
11.5405186	347151.1521		39	10004.148	10.0001801	9.9998199	9995.853	21			
11.5361514	343677.7120		40	10004.232	10.0001838	9.9998162	9995.769	20			
11.5318275	340273.0319		41	10004.317	10.0001875	9.9998125	9995.684	19			
11.5275462	336935.0918		42	10004.403	10.0001912	9.9998088	9995.598	18			
11.5233067	333661.9417		43	10004.490	10.0001950	9.9998050	9995.511	17			
11.5191080	330451.7316		44	10004.578	10.0001988	9.9998012	9995.424	16			
11.5149495	327302.6415		45	10004.667	10.0002026	9.9997974	9995.336	15			
11.5108304	324212.9514		46	10004.756	10.0002065	9.9997935	9995.247	14			
11.5067498	321180.9913		47	10004.846	10.0002104	9.9997896	9995.157	13			
11.5027072	318205.1612		48	10004.937	10.0002144	9.9997856	9995.066	12			
11.4987018	315283.9211		49	10005.029	10.0002183	9.9997817	9994.974	11			
11.4947329	312415.7710		50	10005.122	10.0002224	9.9997776	9994.881	10			
11.4907999	309599.2809		51	10005.215	10.0002264	9.9997736	9994.788	9			
11.4869022	306833.0708		52	10005.309	10.0002305	9.9997695	9994.694	8			
11.4830387	304115.8707		53	10005.405	10.0002347	9.9997653	9994.599	7			
11.4792098	301446.1906		54	10005.501	10.0002388	9.9997612	9994.503	6			
11.4754140	298822.9905		55	10005.598	10.0002430	9.9997570	9994.406	5			
11.4716510	296244.9904		56	10005.696	10.0002473	9.9997527	9994.305	4			
11.4679203	293711.0903		57	10005.795	10.0002516	9.9997484	9994.209	3			
11.4642215	291220.0902		58	10005.894	10.0002559	9.9997441	9994.109	2			
11.4605534	288770.8901		59	10005.994	10.0002602	9.9997398	9994.009	1			
11.4569162	286362.5300		60	10006.095	10.0002646	9.9997354	9993.908	0			
L. Tan.	N. Tan.	38				D. L. Sin.	N. Sin.	38			

2	N. Sin.	L. Sin.	Diff.				2	N. Tan.	L. Tan.	Diff.
0	348.995	8.5428192		11.4571808	286537.08	60	0	349.208	8.5430838	
1	351.902	8.5464218	36026	11.4535782	284169.97	59	1	352.120	8.5466909	36071
2	354.809	8.5499948	35730	11.4500052	281841.68	58	2	355.033	8.5502683	35774
3	357.716	8.5535386	35438	11.4464614	279551.25	57	3	357.945	8.5538166	35483
4	360.623	8.5570536	35150	11.4429466	277297.77	56	4	360.858	8.5573362	35196
5	363.530	8.5605404	34868	11.4394594	275080.35	55	5	363.771	8.5608276	34914
6	366.437	8.5639994	34590	11.4360006	272898.14	54	6	366.683	8.5642912	34636
7	369.344	8.5674310	34316	11.4325690	270750.30	53	7	369.596	8.5677275	34363
8	372.251	8.5708357	34047	11.4291643	268636.03	52	8	372.509	8.5711368	34093
9	375.158	8.5742139	33782	11.4257861	266554.55	51	9	375.422	8.5745197	33829
10	378.065	8.5775660	33521	11.4224340	264505.10	50	10	378.335	8.5778766	33569
11	380.971	8.5808923	33263	11.4191077	262486.94	49	11	381.248	8.5812077	33311
12	383.878	8.5841933	33010	11.4158057	260499.37	48	12	384.161	8.5845136	33059
13	386.785	8.5874694	32761	11.4125306	258541.69	47	13	387.074	8.5877945	32809
14	389.691	8.5907209	32515	11.4092791	256613.24	46	14	389.988	8.5910509	32564
15	392.598	8.5939488	32274	11.4060517	254713.37	45	15	392.901	8.5942832	32323
16	395.505	8.5971517	32034	11.4028483	252841.44	44	16	395.814	8.5974917	32085
17	398.411	8.6003317	31800	11.3996683	250996.85	43	17	398.728	8.6006767	31850
18	401.318	8.6034886	31569	11.3965114	249179.00	42	18	401.641	8.6038386	31619
19	404.224	8.6066226	31340	11.3933774	247387.31	41	19	404.555	8.6069777	31391
20	407.131	8.6097341	31115	11.3902659	245621.23	40	20	407.469	8.6100943	31166
21	410.037	8.6128235	30894	11.3871765	243880.20	39	21	410.383	8.6131889	30946
22	412.944	8.6158910	30675	11.3841090	242163.70	38	22	413.296	8.6162616	30727
23	415.850	8.6189369	30459	11.3810631	240471.21	37	23	416.210	8.6193127	30511
24	418.757	8.6219616	30247	11.3780384	238802.24	36	24	419.124	8.6223427	30300
25	421.663	8.6249653	30037	11.3750347	237156.30	35	25	422.038	8.6253518	30091
26	424.569	8.6279484	29831	11.3720516	235532.90	34	26	424.952	8.6283402	29884
27	427.475	8.6309111	29627	11.3690889	233931.61	33	27	427.866	8.6313083	29681
28	430.382	8.6338537	29426	11.3661463	232351.96	32	28	430.781	8.6342563	29480
29	433.288	8.6367764	29227	11.3632236	230793.51	31	29	433.695	8.6371845	29282
30	436.194	8.6396796	29032	11.3603204	229255.86	30	30	436.609	8.6400921	29086
31	439.100	8.6425634	28838	11.3574366	227738.57	29	31	439.524	8.6429825	28894
32	442.006	8.6454283	28648	11.3545718	226241.26	28	32	442.438	8.6458528	28703
33	444.912	8.6482742	28460	11.3517258	224763.52	27	33	445.353	8.6487044	28516
34	447.818	8.6511016	28274	11.3488984	223304.99	26	34	448.268	8.6515375	28331
35	450.724	8.6539107	28091	11.3460893	221865.28	25	35	451.182	8.6543522	28147
36	453.630	8.6567017	27910	11.3432983	220444.03	24	36	454.097	8.6571490	27968
37	456.536	8.6594748	27731	11.3405252	219040.90	23	37	457.012	8.6599279	27789
38	459.442	8.6622302	27555	11.3377697	217655.53	22	38	459.927	8.6626891	27612
39	462.347	8.6649684	27381	11.3350316	216287.59	21	39	462.842	8.6654331	27440
40	465.253	8.6676893	27209	11.3323107	214936.79	20	40	465.757	8.6681598	27267
41	468.159	8.6703933	27039	11.3296068	213602.72	19	41	468.673	8.6708697	27099
42	471.064	8.6730804	26872	11.3269196	212285.15	18	42	471.588	8.6735628	26931
43	473.970	8.6757510	26706	11.3242490	210983.75	17	43	474.503	8.6762393	26765
44	476.876	8.6784052	26542	11.3215948	209698.24	16	44	477.419	8.6788896	26603
45	479.781	8.6810433	26381	11.3189567	208428.30	15	45	480.334	8.6815437	26441
46	482.687	8.6836654	26221	11.3163346	207173.68	14	46	483.250	8.6841719	26282
47	485.592	8.6862718	26064	11.3137282	205934.09	13	47	486.166	8.6867844	26125
48	488.498	8.6888625	25907	11.3111375	204709.25	12	48	489.082	8.6893813	25969
49	491.403	8.6914379	25754	11.3085621	203498.92	11	49	491.997	8.6919629	25816
50	494.308	8.6939980	25601	11.3060019	202302.84	10	50	494.913	8.6945292	25663
51	497.214	8.6965531	25451	11.3034569	201120.75	9	51	497.829	8.6970806	25514
52	500.119	8.6991034	25302	11.3009266	199952.41	8	52	500.746	8.6996172	25366
53	503.024	8.7016489	25155	11.2984111	198797.58	7	53	503.662	8.7021390	25218
54	505.929	8.7041899	25010	11.2959101	197656.04	6	54	506.578	8.7046465	25075
55	508.835	8.7067266	24867	11.2934234	196527.54	5	55	509.495	8.7071395	24930
56	511.740	8.7092590	24724	11.2909510	195411.87	4	56	512.411	8.7096185	24790
57	514.645	8.7117875	24585	11.2884925	194308.82	3	57	515.328	8.7120834	24649
58	517.550	8.7143120	24445	11.2860480	193218.16	2	58	518.244	8.7145345	24511
59	520.455	8.7168329	24309	11.2836171	192139.70	1	59	521.161	8.7169719	24374
60	523.360	8.7188002	24173	11.2811998	191073.23	0	60	524.078	8.7193958	24239
			Diff.	L. Sec.	N. Sec.	57				Diff.

			N. Sec.	L. Sec.	D		
II.4569162	286362.53	60	0 10006.075	10.0002646	9.9997354	9993.908	60
II.4533091	283993.97	59	1 10006.197	10.0002691	9.9997309	9993.806	59
II.4457717	281664.22	58	2 10006.300	10.0002735	9.9997265	9993.703	58
II.4461834	279372.33	57	3 10006.404	10.0002780	9.9997220	9993.599	57
II.4426638	277117.40	56	4 10006.509	10.0002826	9.9997174	9993.495	56
II.4391724	274898.53	55	5 10006.615	10.0002872	9.9997128	9993.390	55
II.4357088	272714.86	54	6 10006.721	10.0002918	9.9997082	9993.284	54
II.4322725	270565.57	53	7 10006.828	10.0002964	9.9997036	9993.177	53
II.4288632	268449.84	52	8 10006.936	10.0003011	9.9996989	9993.069	52
II.4254803	266366.90	51	9 10007.045	10.0003058	9.9996942	9992.960	51
II.4221234	264316.00	50	10 10007.155	10.0003106	9.9996894	9992.851	50
II.4187923	262296.38	49	11 10007.266	10.0003154	9.9996846	9992.740	49
II.4154864	260307.36	48	12 10007.377	10.0003202	9.9996798	9992.629	48
II.4122055	258348.23	47	13 10007.489	10.0003251	9.9996749	9992.517	47
II.4089491	256418.32	46	14 10007.602	10.0003300	9.9996700	9992.404	46
II.4057168	254517.00	45	15 10007.716	10.0003350	9.9996650	9992.290	45
II.4025083	252643.61	44	16 10007.831	10.0003399	9.9996601	9992.175	44
II.3993233	250797.57	43	17 10007.947	10.0003450	9.9996550	9992.060	43
II.3961614	248978.26	42	18 10008.063	10.0003500	9.9996500	9991.944	42
II.3930223	247185.12	41	19 10008.180	10.0003551	9.9996449	9991.827	41
II.3899577	245417.84	40	20 10008.298	10.0003602	9.9996398	9991.709	40
II.3868111	243675.09	39	21 10008.417	10.0003654	9.9996346	9991.590	39
II.3837384	241957.14	38	22 10008.537	10.0003706	9.9996294	9991.470	38
II.3806873	240263.20	37	23 10008.658	10.0003758	9.9996242	9991.349	37
II.3776573	238592.77	36	24 10008.780	10.0003811	9.9996189	9991.228	36
II.3746482	236945.37	35	25 10008.902	10.0003864	9.9996136	9991.106	35
II.3716598	235320.52	34	26 10009.025	10.0003918	9.9996082	9990.983	34
II.3686917	233717.77	33	27 10009.149	10.0003972	9.9996028	9990.859	33
II.3657437	232136.66	32	28 10009.274	10.0004026	9.9995974	9990.734	32
II.3628155	230576.77	31	29 10009.400	10.0004081	9.9995919	9990.608	31
II.3599069	229037.65	30	30 10009.527	10.0004135	9.9995865	9990.482	30
II.3570175	227518.92	29	31 10009.655	10.0004191	9.9995809	9990.355	29
II.3541472	226020.15	28	32 10009.783	10.0004247	9.9995753	9990.227	28
II.3512956	224540.96	27	33 10009.912	10.0004303	9.9995697	9990.098	27
II.3484625	223080.97	26	34 10010.042	10.0004359	9.9995641	9989.968	26
II.3456478	221639.80	25	35 10010.173	10.0004416	9.9995584	9989.837	25
II.3428510	220217.10	24	36 10010.305	10.0004473	9.9995527	9989.705	24
II.3400721	218812.51	23	37 10010.438	10.0004531	9.9995469	9989.573	23
II.3373109	217425.69	22	38 10010.571	10.0004589	9.9995411	9989.440	22
II.3345669	216056.30	21	39 10010.705	10.0004647	9.9995353	9989.306	21
II.3318402	214704.01	20	40 10010.840	10.0004705	9.9995295	9989.171	20
II.3291323	213368.51	19	41 10010.976	10.0004764	9.9995236	9989.035	19
II.3264372	212049.19	18	42 10011.113	10.0004824	9.9995176	9988.898	18
II.3237607	210746.64	17	43 10011.251	10.0004884	9.9995116	9988.751	17
II.3211004	209459.66	16	44 10011.390	10.0004944	9.9995056	9988.623	16
II.3184563	208188.28	15	45 10011.530	10.0005004	9.9994996	9988.484	15
II.3158251	206932.20	14	46 10011.670	10.0005065	9.9994935	9988.344	14
II.3132156	205691.15	13	47 10011.811	10.0005126	9.9994874	9988.203	13
II.3106187	204464.86	12	48 10011.953	10.0005188	9.9994812	9988.061	12
II.3080371	203253.07	11	49 10012.096	10.0005250	9.9994750	9987.918	11
II.3054708	202055.53	10	50 10012.240	10.0005312	9.9994688	9987.775	10
II.3029194	200871.99	9	51 10012.385	10.0005375	9.9994625	9987.631	9
II.3003828	199702.19	8	52 10012.530	10.0005438	9.9994562	9987.486	8
II.2978610	198545.91	7	53 10012.676	10.0005502	9.9994498	9987.340	7
II.2953535	197402.91	6	54 10012.823	10.0005565	9.9994435	9987.193	6
II.2928605	196272.96	5	55 10012.971	10.0005630	9.9994370	9987.045	5
II.2903815	195155.84	4	56 10013.120	10.0005694	9.9994306	9986.897	4
II.2879166	194051.33	3	57 10013.270	10.0005759	9.9994241	9986.748	3
II.2854655	192959.22	2	58 10013.420	10.0005824	9.9994176	9986.598	2
II.2830281	191879.30	1	59 10013.571	10.0005890	9.9994110	9986.447	1
II.2806042	190811.37	0	60 10013.723	10.0005956	9.9994044	9986.295	0
L. Tan.	N. Tan. 87				D	L. Sin.	N. Sin. 87

N. Sin.	L. Sin.	Diff.				N. Tan.	L. Tan.	Diff.
0 523.360	8.7188002	24038	11.2811998	191073.2360		0 524.078	8.7193958	24105
1 526.264	8.7212040	23906	11.2787966	190018.5459		1 526.995	8.7218063	23972
2 529.169	8.7235946	23775	11.2764054	188975.4558		2 529.913	8.7242033	23842
3 532.074	8.7259721	23645	11.2740279	187943.7657		3 532.829	8.7265877	23712
4 534.979	8.7283366	23516	11.2716634	186923.3056		4 535.746	8.7289585	23585
5 537.883	8.7306934	23390	11.2693118	185913.8755		5 538.663	8.7313174	23455
6 540.788	8.7330272	23263	11.2669722	184915.3054		6 541.581	8.7336631	23332
7 543.693	8.7353535	23140	11.2646465	183927.4253		7 544.498	8.7359964	23208
8 546.597	8.7376675	23016	11.2623325	182950.0552		8 547.416	8.7383192	23086
9 549.502	8.7399691	22895	11.2600309	181983.0351		9 550.333	8.7406258	22964
10 552.406	8.7422585	22774	11.2577414	181026.1950		10 553.251	8.7429222	22845
11 555.311	8.7445360	22655	11.2554640	180079.3749		11 556.169	8.7452067	22725
12 558.215	8.7468019	22538	11.2531985	179142.4348		12 559.087	8.7474792	22608
13 561.119	8.7490555	22420	11.2509447	178215.2047		13 562.005	8.7497400	22492
14 564.024	8.7512975	22305	11.2487027	177297.5346		14 564.923	8.7519892	22377
15 566.928	8.7535278	22191	11.2464722	176389.2845		15 567.841	8.7542369	22262
16 569.832	8.7557469	22077	11.2442531	175490.3044		16 570.759	8.7564531	22150
17 572.736	8.7579546	21966	11.2420454	174600.4643		17 573.678	8.7586681	22038
18 575.640	8.7601512	21854	11.2398488	173719.6042		18 576.596	8.7608719	21928
19 578.544	8.7623366	21745	11.2376624	172847.6141		19 579.515	8.7630647	21818
20 581.448	8.7645111	21636	11.2354889	171984.3440		20 582.434	8.7652465	21710
21 584.352	8.7666747	21528	11.2333253	171129.6639		21 585.352	8.7674175	21602
22 587.256	8.7688275	21422	11.2311725	170283.3638		22 588.271	8.7695777	21497
23 590.160	8.7709697	21317	11.2290303	169445.5937		23 591.190	8.7717274	21391
24 593.064	8.7731014	21212	11.2268986	168615.9436		24 594.109	8.7738665	21287
25 595.967	8.7752226	21108	11.2247774	167794.3935		25 597.029	8.7759952	21184
26 598.871	8.7773334	21006	11.2226666	166980.8234		26 599.948	8.7781136	21082
27 601.775	8.7794340	20904	11.2205660	166175.1233		27 602.867	8.7802218	20981
28 604.678	8.7815244	20804	11.2184756	165377.1732		28 605.787	8.7823199	20880
29 607.582	8.7836048	20705	11.2163952	164586.8631		29 608.706	8.7844079	20782
30 610.485	8.7856753	20606	11.2143247	163804.0830		30 611.626	8.7864861	20683
31 613.389	8.7877359	20508	11.2122641	163028.7329		31 614.546	8.7885544	20586
32 616.292	8.7897867	20411	11.2102133	162260.6928		32 617.466	8.7906130	20490
33 619.196	8.7918278	20316	11.2081722	161499.8727		33 620.386	8.7926620	20394
34 622.099	8.7938594	20220	11.2061406	160746.1726		34 623.306	8.7947014	20299
35 625.002	8.7958814	20127	11.2041185	159999.4825		35 626.226	8.7967313	20206
36 627.905	8.7978941	20033	11.2021059	159259.7124		36 629.147	8.7987519	20113
37 630.808	8.7998974	19941	11.2001026	158526.7623		37 632.067	8.8007632	20021
38 633.711	8.8018915	19849	11.1981085	157800.5422		38 634.988	8.8027653	19930
39 636.614	8.8038764	19759	11.1961236	157080.9621		39 637.908	8.8047583	19838
40 639.517	8.8058523	19669	11.1941477	156367.9320		40 640.829	8.8067422	19750
41 642.420	8.8078192	19580	11.1921808	155661.3519		41 643.750	8.8087172	19662
42 645.323	8.8097772	19492	11.1902228	154961.1418		42 646.671	8.8106834	19573
43 648.226	8.8117264	19404	11.1882736	154267.2117		43 649.592	8.8126407	19487
44 651.129	8.8136668	19317	11.1863332	153579.4916		44 652.513	8.8145894	19400
45 654.031	8.8155984	19232	11.1844015	152897.8815		45 655.435	8.8165294	19314
46 656.934	8.8175217	19146	11.1824783	152222.3114		46 658.356	8.8184608	19230
47 659.836	8.8194363	19062	11.1805637	151552.7013		47 661.278	8.8203838	19146
48 662.739	8.8213425	18979	11.1786575	150888.9612		48 664.199	8.8222984	19063
49 665.641	8.8232404	18895	11.1767596	150231.0311		49 667.121	8.8242046	18980
50 668.544	8.8251299	18813	11.1748701	149578.8210		50 670.043	8.8261026	18898
51 671.446	8.8270112	18732	11.1729888	148932.2609		51 672.965	8.8279924	18818
52 674.348	8.8288844	18651	11.1711156	148291.2808		52 675.887	8.8298741	18732
53 677.251	8.8307495	18571	11.1692505	147655.8007		53 678.809	8.8317478	18650
54 680.153	8.8326066	18491	11.1673934	147025.7206		54 681.732	8.8336136	18578
55 683.055	8.8344557	18412	11.1655443	146401.0905		55 684.654	8.8354712	18492
56 685.957	8.8362969	18335	11.1637031	145781.7104		56 687.577	8.8373211	18422
57 688.859	8.8381204	18257	11.1618696	145167.6703		57 690.499	8.8391633	18344
58 691.761	8.8399561	18180	11.1600439	144558.9902		58 693.422	8.8409977	18268
59 694.663	8.8417741	18104	11.1582259	143954.7101		59 696.345	8.8428245	18192
60 697.565	8.8435845	18029	11.1564155	143355.8700		60 699.268	8.8446457	18118
		Diff.	L. Sec.	N. Sec. 180				Diff.

		3	N. Sec.	L. Sec.	D		
1.2806042	190811.9760	0	19013.723	10.0005956	66	9.9994044	9986.29560
1.2781937	189755.2359	1	10013.876	10.0006022	67	9.9993978	9986.14259
1.2757965	188710.6858	2	10014.030	10.0006089	67	9.9993911	9985.98358
1.2734123	187677.5457	3	10014.185	10.0006156	68	9.9993844	9985.83557
1.2710411	186655.6256	4	10014.341	10.0006224	68	9.9993776	9985.68056
1.2686828	185644.7355	5	10014.498	10.0006292	68	9.9993708	9985.52455
1.2663369	184644.7154	6	10014.655	10.0006360	68	9.9993640	9985.36754
1.2640036	183655.3753	7	10014.813	10.0006428	68	9.9993572	9985.20953
1.2616828	182676.5452	8	10014.972	10.0006497	69	9.9993503	9985.05052
1.2593742	181708.0751	9	10015.132	10.0006567	69	9.9993433	9984.89151
1.2570778	180749.7750	10	10015.293	10.0006636	69	9.9993366	9984.73150
1.2547933	179801.5049	11	10015.455	10.0006707	71	9.9993293	9984.57049
1.2525208	178863.1048	12	10015.617	10.0006777	70	9.9993223	9984.40848
1.2502600	177934.4347	13	10015.780	10.0006848	71	9.9993152	9984.24547
1.2480108	177015.2946	14	10015.944	10.0006919	71	9.9993081	9984.08146
1.2457731	176105.5945	15	10016.109	10.0006991	72	9.9993009	9983.91645
1.2435469	175205.1644	16	10016.275	10.0007062	72	9.9992938	9983.75144
1.2413319	174313.8543	17	10016.442	10.0007135	73	9.9992865	9983.58543
1.2391281	173431.5542	18	10016.610	10.0007207	72	9.9992793	9983.41842
1.2369353	172558.0941	19	10016.778	10.0007280	73	9.9992720	9983.25041
1.2347535	171693.3740	20	10016.947	10.0007354	74	9.9992646	9983.08140
1.2325835	170837.2439	21	10017.117	10.0007428	74	9.9992572	9982.91139
1.2304223	169989.5738	22	10017.288	10.0007502	74	9.9992498	9982.74138
1.2282726	169150.2537	23	10017.460	10.0007576	74	9.9992424	9982.57037
1.2261335	168319.5536	24	10017.633	10.0007651	75	9.9992349	9982.39836
1.2240048	167496.1435	25	10017.807	10.0007726	75	9.9992274	9982.22535
1.2218864	166681.1234	26	10017.981	10.0007802	76	9.9992198	9982.05134
1.2197782	165873.9633	27	10018.156	10.0007878	76	9.9992124	9981.87633
1.2176801	165074.5532	28	10018.332	10.0007954	77	9.9992046	9981.70132
1.2155921	164282.7931	29	10018.509	10.0008031	77	9.9991969	9981.52531
1.2135139	163498.5630	30	10018.687	10.0008108	77	9.9991892	9981.34830
1.2114456	162721.7429	31	10018.866	10.0008185	77	9.9991815	9981.17029
1.2093870	161952.2528	32	10019.046	10.0008263	78	9.9991737	9980.99128
1.2073380	161189.9827	33	10019.226	10.0008341	79	9.9991659	9980.81127
1.2052986	160434.8226	34	10019.407	10.0008420	79	9.9991580	9980.63026
1.2032687	159686.6725	35	10019.589	10.0008499	79	9.9991501	9980.44925
1.2012481	158945.4524	36	10019.772	10.0008578	79	9.9991422	9980.26724
1.1992368	158211.0423	37	10019.956	10.0008658	80	9.9991342	9980.08423
1.1972347	157483.3722	38	10020.141	10.0008738	80	9.9991262	9979.90022
1.1952417	156762.3321	39	10020.326	10.0008818	81	9.9991182	9979.71521
1.1932578	156047.5420	40	10020.512	10.0008899	81	9.9991101	9979.52920
1.1912828	155339.8119	41	10020.699	10.0008980	82	9.9991020	9979.34319
1.1893166	154638.1418	42	10020.887	10.0009062	82	9.9990938	9979.15618
1.1873593	153942.7617	43	10021.076	10.0009144	82	9.9990856	9978.96817
1.1854106	153253.5816	44	10021.266	10.0009226	83	9.9990774	9978.77916
1.1834706	152570.5215	45	10021.457	10.0009309	83	9.9990691	9978.58915
1.1815392	151893.4914	46	10021.649	10.0009392	83	9.9990608	9978.39814
1.1796162	151222.4213	47	10021.841	10.0009475	83	9.9990525	9978.20613
1.1777016	150557.2312	48	10022.034	10.0009559	84	9.9990441	9978.01412
1.1757954	149897.8411	49	10022.228	10.0009643	84	9.9990357	9977.82111
1.1738374	149244.1710	50	10022.423	10.0009727	84	9.9990273	9977.62710
1.1720076	148596.1509	51	10022.619	10.0009812	85	9.9990188	9977.43209
1.1701359	147953.7208	52	10022.816	10.0009897	85	9.9990103	9977.23608
1.1682522	147316.7907	53	10023.013	10.0009983	85	9.9990017	9977.03907
1.1663866	146685.2906	54	10023.211	10.0010069	86	9.9989931	9976.84206
1.1645288	146059.1605	55	10023.410	10.0010155	87	9.9989845	9976.64405
1.1626789	145438.3304	56	10023.610	10.0010242	87	9.9989758	9976.44504
1.1608367	144822.7303	57	10023.811	10.0010329	87	9.9989671	9976.24503
1.1590023	144212.3302	58	10024.013	10.0010416	88	9.9989584	9976.04402
1.1571755	143606.9601	59	10024.215	10.0010504	88	9.9989496	9975.84201
1.1553563	143006.6600	60	10024.419	10.0010592	88	9.9989408	9975.64000
L. Tan.	N. Tan. 86				D	L. Sin.	N. Sin. 86

4	N. Sin	L. Sin.	Diff.			4	N. Ta.	L. Tan.	Diff.
0	697.565	8.8435845	18029	11.1564155	143355.87	60	699.268	8.8446437	18117
1	700.466	8.8453874	17953	11.1546126	142762.00	59	702.191	8.8464554	18043
2	703.368	8.8471827	17880	11.1528173	142173.04	58	705.115	8.8482597	17969
3	706.270	8.8489797	17805	11.1510293	141588.94	57	708.038	8.8500566	17895
4	709.171	8.8507512	17733	11.1492488	141009.62	56	710.961	8.8518461	17822
5	712.073	8.8525245	17660	11.1474755	140435.04	55	713.885	8.8536283	17751
6	714.974	8.8542905	17588	11.1457095	139865.14	54	716.809	8.8554034	17679
7	717.876	8.8560493	17517	11.1439507	139299.85	53	719.733	8.8571713	17608
8	720.777	8.8578010	17447	11.1421990	138739.13	52	722.657	8.8589321	17538
9	723.678	8.8595457	17376	11.1404543	138182.91	51	725.581	8.8606859	17468
10	726.580	8.8612833	17306	11.1387167	137631.15	50	728.505	8.8624327	17398
11	729.481	8.8630139	17237	11.1369861	137083.79	49	731.430	8.8641725	17330
12	732.382	8.8647376	17169	11.1352624	136540.77	48	734.354	8.8659055	17262
13	735.283	8.8664545	17101	11.1335455	136002.05	47	737.279	8.8676317	17194
14	738.184	8.8681646	17034	11.1318354	135457.58	46	740.203	8.8693511	17127
15	741.085	8.8698680	16966	11.1301320	134917.31	45	743.128	8.8710638	17061
16	743.986	8.8715646	16900	11.1284354	134411.18	44	746.053	8.8727699	16995
17	746.887	8.8732546	16835	11.1267454	133889.14	43	748.979	8.8744694	16929
18	749.787	8.8749381	16769	11.1250619	133371.16	42	751.904	8.8761622	16864
19	752.688	8.8766150	16704	11.1233850	132857.19	41	754.829	8.8778487	16799
20	755.589	8.8782854	16639	11.1217146	132347.16	40	757.755	8.8795286	16736
21	758.489	8.8799493	16576	11.1200507	131841.06	39	760.680	8.8812022	16672
22	761.390	8.8816069	16512	11.1183931	131338.82	38	763.606	8.8828694	16609
23	764.290	8.8832581	16450	11.1167419	130840.40	37	766.532	8.8845303	16547
24	767.190	8.8849031	16387	11.1150969	130345.76	36	769.458	8.8861850	16484
25	770.091	8.8865418	16325	11.1134582	129854.86	35	772.384	8.8878334	16423
26	772.991	8.8881743	16264	11.1118257	129367.65	34	775.311	8.8894757	16362
27	775.891	8.8898007	16202	11.1101993	128884.10	33	778.237	8.8911119	16301
28	778.791	8.8914205	16142	11.1085791	128404.15	32	781.164	8.8927420	16240
29	781.691	8.8930351	16082	11.1069649	127927.79	31	784.090	8.8943660	16182
30	784.591	8.8946433	16022	11.1053567	127454.95	30	787.017	8.8959842	16121
31	787.491	8.8962455	15963	11.1037545	126985.60	29	789.944	8.8975963	16062
32	790.391	8.8978418	15904	11.1021582	126519.71	28	792.871	8.8992026	16004
33	793.290	8.8994322	15846	11.1005678	126057.24	27	795.798	8.9008030	15947
34	796.190	8.9010168	15787	11.0989832	125598.15	26	798.726	8.9023977	15892
35	799.090	8.9025955	15730	11.0974045	125142.40	25	801.653	8.9039866	15831
36	801.989	8.9041685	15673	11.0958215	124689.95	24	804.581	8.9055697	15775
37	804.889	8.9057355	15617	11.0942642	124240.78	23	807.509	8.9071472	15718
38	807.788	8.9072975	15560	11.0927205	123794.84	22	810.437	8.9087190	15663
39	810.687	8.9088535	15504	11.0911465	123352.10	21	813.365	8.9102853	15607
40	813.587	8.9104039	15448	11.0895961	122912.52	20	816.293	8.9118460	15552
41	816.486	8.9119487	15394	11.0880513	122476.08	19	819.221	8.9134012	15497
42	819.385	8.9134881	15338	11.0865119	122042.74	18	822.150	8.9149509	15443
43	822.284	8.9150219	15285	11.0849781	121612.46	17	825.078	8.9164952	15388
44	825.183	8.9165504	15230	11.0834496	121185.22	16	827.907	8.9180340	15335
45	828.082	8.9180734	15177	11.0819266	120760.98	15	830.836	8.9195675	15282
46	830.981	8.9195919	15123	11.0804089	120339.70	14	833.765	8.9210957	15229
47	833.880	8.9211034	15071	11.0788966	119921.37	13	836.694	8.9226186	15177
48	836.778	8.9226105	15018	11.0773895	119505.95	12	839.623	8.9241363	15124
49	839.677	8.9241123	14966	11.0758877	119093.40	11	842.552	8.9256487	15073
50	842.576	8.9256089	14914	11.0743911	118683.70	10	845.481	8.9271560	15021
51	845.474	8.9271003	14863	11.0728997	118276.83	9	848.410	8.9286581	14971
52	848.373	8.9285866	14812	11.0714134	117872.74	8	851.339	8.9301552	14921
53	851.271	8.9300678	14761	11.0699322	117471.41	7	854.268	8.9316471	14869
54	854.170	8.9315439	14711	11.0684561	117072.82	6	857.197	8.9331340	14820
55	857.067	8.9330150	14661	11.0669850	116676.93	5	860.126	8.9346160	14769
56	859.966	8.9344811	14611	11.0655189	116283.72	4	863.055	8.9360929	14721
57	862.864	8.9359422	14561	11.0640578	115893.16	3	865.984	8.9375650	14671
58	865.762	8.9373983	14513	11.0626017	115505.23	2	868.913	8.9390321	14623
59	868.660	8.9388496	14464	11.0611504	115119.90	1	871.842	8.9404944	14574
60	871.557	8.9402960		11.0597040	114737.13	0	874.771	8.9419518	
			Diff.	L. Sec.	N. Sec.	85			Diff.

			4	N. Sec.	L. Sec.	D			
11.1553563	142006.66	60	0	10024.419	10.0010592	9.9989478	9975.640	60	
11.1535446	142411.34	59	1	10024.623	10.0010681	9.9989313	9975.437	59	
11.1517403	141820.92	58	2	10024.823	10.0010770	9.9989230	9975.233	58	
11.1499434	141235.36	57	3	10025.034	10.0010859	9.9989141	9975.028	57	
11.1481539	140654.59	56	4	10025.241	10.0010948	9.9989052	9974.822	56	
11.1463717	140078.56	55	5	10025.449	10.0011038	9.9988962	9974.615	55	
11.1445966	139507.19	54	6	10025.658	10.0011129	9.9988871	9974.407	54	
11.1428287	138940.45	53	7	10025.868	10.0011220	9.9988780	9974.199	53	
11.1410679	138378.27	52	8	10026.078	10.0011311	9.9988689	9973.990	52	
11.1393141	137820.60	51	9	10026.289	10.0011402	9.9988598	9973.780	51	
11.1375673	137267.38	50	10	10026.501	10.0011494	9.9988506	9973.569	50	
11.1358275	136718.56	49	11	10026.714	10.0011586	9.9988414	9973.357	49	
11.1340945	136174.00	48	12	10026.928	10.0011679	9.9988321	9973.144	48	
11.1323683	135633.91	47	13	10027.143	10.0011772	9.9988228	9972.931	47	
11.1306489	135097.99	46	14	10027.358	10.0011865	9.9988135	9972.717	46	
11.1289362	134566.25	45	15	10027.574	10.0011959	9.9988041	9972.502	45	
11.1272301	134038.67	44	16	10027.791	10.0012053	9.9987947	9972.286	44	
11.1255306	133515.18	43	17	10028.009	10.0012147	9.9987853	9972.069	43	
11.1238377	132995.74	42	18	10028.228	10.0012242	9.9987758	9971.851	42	
11.1221513	132480.31	41	19	10028.448	10.0012337	9.9987663	9971.632	41	
11.1204714	131968.83	40	20	10028.668	10.0012433	9.9987567	9971.412	40	
11.1187978	131461.27	39	21	10028.889	10.0012529	9.9987471	9971.193	39	
11.1171306	130957.57	38	22	10029.111	10.0012625	9.9987375	9970.972	38	
11.1154697	130457.69	37	23	10029.334	10.0012722	9.9987278	9970.750	37	
11.1138150	129961.60	36	24	10029.558	10.0012819	9.9987181	9970.527	36	
11.1121666	129469.24	35	25	10029.783	10.0012916	9.9987084	9970.303	35	
11.1105243	128980.58	34	26	10030.009	10.0013014	9.9986986	9970.079	34	
11.1088881	128495.57	33	27	10030.236	10.0013112	9.9986888	9969.854	33	
11.1072580	128014.17	32	28	10030.464	10.0013210	9.9986790	9969.628	32	
11.1056340	127536.34	31	29	10030.693	10.0013309	9.9986691	9969.401	31	
11.1040158	127062.05	30	30	10030.922	10.0013409	9.9986591	9969.173	30	
11.1024037	126591.25	29	31	10031.152	10.0013508	9.9986492	9968.944	29	
11.1007974	126123.90	28	32	10031.383	10.0013608	9.9986392	9968.715	28	
11.0991970	125659.97	27	33	10031.615	10.0013708	9.9986292	9968.485	27	
11.0976023	125199.42	26	34	10031.848	10.0013809	9.9986191	9968.254	26	
11.0960134	124742.21	25	35	10032.081	10.0013910	9.9986090	9968.022	25	
11.0944303	124288.31	24	36	10032.315	10.0014012	9.9985988	9967.789	24	
11.0928528	123837.68	23	37	10032.550	10.0014114	9.9985886	9967.555	23	
11.0912810	123390.28	22	38	10032.786	10.0014216	9.9985784	9967.320	22	
11.0897147	122946.08	21	39	10033.023	10.0014318	9.9985682	9967.085	21	
11.0881540	122505.06	20	40	10033.261	10.0014421	9.9985579	9966.849	20	
11.0865988	122067.16	19	41	10033.500	10.0014525	9.9985475	9966.612	19	
11.0850491	121632.36	18	42	10033.740	10.0014628	9.9985372	9966.374	18	
11.0835048	121200.62	17	43	10033.980	10.0014732	9.9985268	9966.135	17	
11.0819660	120771.92	16	44	10034.221	10.0014837	9.9985163	9965.895	16	
11.0804325	120346.22	15	45	10034.463	10.0014942	9.9985058	9965.655	15	
11.0789043	119923.49	14	46	10034.706	10.0015047	9.9984953	9965.414	14	
11.0773814	119503.70	13	47	10034.950	10.0015152	9.9984848	9965.172	13	
11.0758637	119086.82	12	48	10035.195	10.0015258	9.9984742	9964.929	12	
11.0743513	118672.82	11	49	10035.441	10.0015364	9.9984636	9964.685	11	
11.0728440	118261.67	10	50	10035.687	10.0015471	9.9984529	9964.440	10	
11.0713419	117853.33	9	51	10035.934	10.0015578	9.9984422	9964.194	9	
11.0698448	117447.79	8	52	10036.182	10.0015685	9.9984315	9963.945	8	
11.0683529	117045.00	7	53	10036.431	10.0015793	9.9984207	9963.701	7	
11.0668660	116644.95	6	54	10036.681	10.0015901	9.9984099	9963.453	6	
11.0653840	116247.61	5	55	10036.932	10.0016010	9.9983990	9963.204	5	
11.0639071	115852.94	4	56	10037.184	10.0016119	9.9983881	9962.954	4	
11.0624350	115460.93	3	57	10037.436	10.0016228	9.9983772	9962.703	3	
11.0609679	115071.54	2	58	10037.689	10.0016337	9.9983663	9962.452	2	
11.0595056	114684.74	1	59	10037.943	10.0016447	9.9983553	9962.200	1	
11.0580482	114300.52	0	60	10038.198	10.0016558	9.9983442	9961.947	0	
L. Tan.			N. Tan.			185			
						D	L. Sin. N. Sin.		

A TABLE to Convert Sexagesimals into Decimals, & Contra.

	0	12	24	36	48
0.000.003	.007	.014	.021	.028	.035
1.017.02	.023	.047	.071	.095	.119
2.033.037	.04	.088	.132	.176	.220
3.050.053	.057	.114	.171	.228	.285
4.067.07	.073	.146	.219	.292	.365
5.083.087	.09	.182	.274	.366	.458
6.1	.103	.206	.311	.416	.521
7.117.12	.123	.246	.370	.493	.616
8.133.137	.14	.288	.437	.586	.735
9.150.153	.157	.314	.473	.632	.791
10.167.17	.173	.341	.500	.659	.818
11.183.187	.19	.378	.537	.696	.855
12.2	.203	.406	.611	.816	.1021
13.217.22	.223	.446	.651	.856	.1061
14.233.237	.24	.488	.682	.882	.1101
15.25	.253	.509	.711	.907	.1141
16.267.27	.273	.539	.741	.937	.1181
17.283.287	.29	.570	.772	.968	.1221
18.3	.303	.601	.803	.1003	.1261
19.317.32	.323	.632	.834	.1034	.1301
20.333.337	.34	.663	.865	.1065	.1341
21.35	.353	.694	.896	.1096	.1381
22.367.37	.373	.725	.927	.1127	.1421
23.383.387	.39	.756	.958	.1158	.1461
24.4	.403	.787	.989	.1189	.1501
25.417.42	.423	.818	.1020	.1220	.1541
26.433.437	.44	.849	.1051	.1251	.1581
27.45	.453	.880	.1082	.1282	.1621
28.467.47	.473	.911	.1113	.1313	.1661
29.483.487	.49	.942	.1144	.1344	.1701
30.5	.503	.973	.1175	.1375	.1741
31.517.52	.523	.1004	.1206	.1406	.1781
32.533.537	.54	.1035	.1237	.1437	.1821
33.550.553	.557	.1066	.1268	.1468	.1861
34.567.57	.573	.1097	.1299	.1499	.1901
35.583.587	.59	.1128	.1330	.1530	.1941
36.6	.603	.1159	.1361	.1561	.1981
37.617.62	.623	.1190	.1392	.1592	.2021
38.633.637	.64	.1221	.1423	.1623	.2061
39.65	.653	.1252	.1454	.1654	.2101
40.667.67	.673	.1283	.1485	.1685	.2141
41.683.687	.69	.1314	.1516	.1716	.2181
42.7	.703	.1345	.1547	.1747	.2221
43.717.72	.723	.1376	.1578	.1778	.2261
44.733.737	.74	.1407	.1609	.1809	.2301
45.75	.753	.1438	.1640	.1840	.2341
46.767.77	.773	.1469	.1671	.1871	.2381
47.783.787	.79	.1500	.1702	.1902	.2421
48.8	.803	.1531	.1733	.1933	.2461
49.817.82	.823	.1562	.1764	.1964	.2501
50.833.837	.84	.1593	.1795	.1995	.2541
51.85	.853	.1624	.1826	.2026	.2581
52.867.87	.873	.1655	.1857	.2057	.2621
53.883.887	.89	.1686	.1888	.2088	.2661
54.9	.903	.1717	.1919	.2119	.2701
55.917.92	.923	.1748	.1950	.2150	.2741
56.933.937	.94	.1779	.1981	.2181	.2781
57.95	.953	.1810	.2012	.2212	.2821
58.967.97	.973	.1841	.2043	.2243	.2861
59.983.987	.99	.1872	.2074	.2274	.2901

Num.	0	1	2	3	4	5	6	7	8	9
10000	0000	0000	0043	0087	0130	0174	0217	0261	0304	0347
01	434	478	521	564	608	651	695	738	782	825
02	868	912	955	999	042	086	129	172	216	259
03	0001	303	346	389	433	476	520	563	607	650
04	737	780	824	867	910	954	997	041	084	127
05	0002	171	214	258	301	345	388	431	475	518
06	605	648	692	735	779	822	865	909	952	996
07	0003	039	082	126	169	213	256	299	343	386
08	473	516	560	603	646	690	733	777	820	863
09	907	950	994	037	080	124	167	211	254	297
10010	0004	341	384	427	471	514	558	601	644	688
11	775	818	861	905	948	991	035	078	122	165
12	0005	208	252	295	338	382	425	469	512	555
13	642	685	729	772	816	859	902	946	989	032
14	0006	076	119	163	206	249	293	336	379	423
15	509	553	596	640	683	726	770	813	856	900
16	943	986	030	073	117	160	203	247	290	333
17	0007	377	420	463	507	550	593	637	680	724
18	810	854	897	940	984	027	070	114	157	200
19	0008	244	287	330	374	417	460	504	547	590
10020	0009	677	721	764	807	851	894	937	981	024
21	0009	111	154	197	241	284	327	371	414	457
22	544	587	631	674	717	761	804	847	891	934
23	977	021	064	107	151	194	237	281	324	367
24	0010	411	454	497	541	584	627	670	714	757
25	844	887	930	977	017	060	104	147	190	234
26	0011	277	320	364	407	450	494	537	580	623
27	710	753	797	840	883	927	970	013	057	100
28	0012	143	187	230	273	316	360	403	446	490
29	576	620	663	706	749	793	836	879	923	966
10030	0013	009	053	096	139	182	226	269	312	356
31	442	486	529	572	615	659	702	745	789	832
32	875	918	962	005	048	092	135	178	221	265
33	0014	308	351	395	438	481	525	568	611	654
34	741	784	827	871	914	957	001	044	087	130
35	0015	174	217	260	304	347	390	433	477	520
36	606	650	693	736	780	823	866	909	953	996
37	0016	039	082	126	169	212	256	299	342	385
38	472	515	558	602	645	688	731	775	818	861
39	904	948	991	034	078	121	164	207	251	294
10040	0017	337	380	424	467	510	553	597	640	683
41	770	813	856	899	943	986	029	072	116	159
42	0018	202	245	289	332	375	418	462	505	548
43	635	678	721	764	808	851	894	937	981	024
44	0019	067	110	153	197	240	283	326	370	413
45	499	543	586	629	672	716	759	802	845	888
46	932	975	018	061	105	148	191	234	278	321
47	0020	364	407	450	494	537	580	623	667	710
48	796	839	883	926	969	012	056	099	142	185
49	0021	228	272	315	358	401	444	488	531	574
Num.	0	1	2	3	4	5	6	7	8	9

The Use of the Table in the Margin explain'd.

To find the Decimal of a Degree to every Minute and 12", or of a Minute to every Second and 12", look the Min. or Second in the first Column, against which, and under 0, 12, 24, 36, or 48. is the Decimal sought; so .09 of a Deg. is 5' 24", and .09 of a Min. is 5" 24".

To find the Log. of the Sine, Tangent, or Secant, to every Second and 12", proceed thus: Find the Log. of the Deg. and Min. in the following Table,

Num.	0	1	2	3	4	5	6	7	8	9
10050	0021	661	704	747	790	833	877	920	963	006
51	0022	093	136	179	222	266	309	352	395	438
52		525	568	611	654	698	741	784	827	870
53		957	000	043	086	130	173	216	259	302
54	0023	389	432	475	518	562	605	648	691	734
55		821	864	907	950	993	037	080	123	166
56	0024	253	296	339	382	425	469	512	555	598
57		684	728	771	814	857	900	944	987	030
58	0025	116	159	203	246	289	332	375	419	462
59		548	591	634	678	721	764	807	850	893
10060		980	023	066	109	152	196	239	282	325
61	0025	411	455	498	541	584	627	670	714	757
62		843	886	929	973	016	059	102	145	188
63	0027	275	318	361	404	447	491	534	577	620
64		706	749	793	836	879	922	965	008	051
65	0028	138	181	224	267	310	353	397	440	483
66		569	612	655	699	742	785	828	871	914
67	0029	001	044	087	130	173	216	259	303	346
68		432	475	518	561	605	648	691	734	777
69		863	906	950	993	036	079	122	165	208
10070	0030	295	338	381	424	467	510	553	597	640
71		726	769	812	855	898	942	985	028	071
72	0031	157	200	243	286	330	373	416	459	502
73		588	631	675	718	761	804	847	890	933
74	0032	019	063	106	149	192	235	278	321	364
75		450	494	537	580	623	666	709	752	795
76		882	925	968	011	054	097	140	183	226
77	0033	313	356	399	442	485	528	571	614	657
78		743	787	830	873	916	959	002	045	088
79	0034	174	217	261	304	347	390	433	476	519
10080		605	648	691	735	778	821	864	907	950
81	0035	036	079	122	165	208	251	295	338	381
82		467	510	553	596	639	682	725	768	811
83		898	941	984	027	067	113	156	199	242
84	0036	328	371	414	458	501	544	587	630	673
85		759	802	845	888	931	974	017	060	103
86	0037	190	233	276	319	362	405	448	491	534
87		620	663	706	749	792	835	878	922	965
88	0038	051	094	137	180	223	266	309	352	395
89		481	524	567	610	653	696	739	782	826
10090		912	955	998	041	084	127	170	213	256
91	0039	342	385	428	471	514	557	600	643	686
92		772	815	858	901	944	988	031	074	117
93	0040	203	246	289	332	375	418	461	504	547
94		633	676	719	762	805	848	891	934	977
95	0041	063	106	149	192	235	278	321	364	407
96		493	536	579	622	665	708	751	794	837
97		924	967	010	053	096	139	182	225	268
98	0042	354	397	440	483	526	569	612	655	698
99		784	827	870	913	956	999	042	085	128
Num.	0	1	2	3	4	5	6	7	8	9

The End of the Table of Logarithms.

T A B L E S O F

Natural Sines, Tangents, Secants, Vers'd Sines,
And their Logarithms,
To every Minute of the QUADRANT.

against which is plac'd the Difference; which Difference multiply by the Decimal of the Second and 12" given, and add the Product to the Log. before found, their Summ is the Log. sought.

Ex. What is the Log. of the Sine of 1 Deg. 45' 5" 24"?

Ans. 8.4852182.

I find in the Table the Sine of 1 Deg. 45', viz. 305.385.

Log. 8.4848479. Diff. 41153.

Product 3703.77 .09

Sum 8.4852182 3703.77

Their Summ, viz. 8.4852182 is the Log. sought.

It may be done without the Table thus, Multiply 41153, the Diff. by 5" $\frac{4}{100}$ (equal to 5" 24") and divide the Product by 60, the Quotient will be 3703.77, as before.

If the Log. be given, take the nearest Log. that is less, and subtract it from the Log. given, then divide the Remainder by the common Diff. the Quotient is the Decimal of the Second and Third sought.

Ex. The Log. Sine 8.4852182 is given, What is the Deg. Min. Second and Third, that belongs to it? Ans. 1 Deg. 45' $\frac{9}{100}$ or .09 the Decimal of 5" 24".

Log. given 8.4852182.77

1 Deg. 45' Log. 8.4848479

Diff. 41153 3703.77 (.09)

The Quotient .09 is the Decimal of the Answer, viz. 5" 24".

It may be done without the Table thus, Multiply the Remainder 3703.77 by 60, and divide the Product by the Diff. 41153, the Quotient will be 5" $\frac{4}{100}$ (equal to 5" 24") as before.

Note, That the following Tables are placed in such order, that the Column of Logarithms on each side the Differences are Complements Arithmetical to each other, and the Column of Differences in the middle is common to them both.

C. N. Sin.						L. Sin.						Diff.						Infin.						Infin.						60						C. N. Ta.						L. Tan.						Diff.											
°						°						°						°						°						°						°						°						°						°					
1	2.909	6.4637261	3010300	13.5362739	343774682	59	1	2.909	6.4637261	3010301	13.5362739	343774682	59	1	2.909	6.4637261	3010301	13.5362739	343774682	59	1	2.909	6.4637261	3010301	13.5362739	343774682	59	1	2.909	6.4637261	3010301	13.5362739	343774682	59																									
2	5.818	6.7647561	1760912	13.2352439	171887348	58	2	5.818	6.7647561	1760913	13.2352439	171887348	58	2	5.818	6.7647561	1760913	13.2352439	171887348	58	2	5.818	6.7647561	1760913	13.2352439	171887348	58	2	5.818	6.7647561	1760913	13.2352439	171887348	58																									
3	8.727	6.9408473	1249387	13.0591527	11459157.4	57	3	8.727	6.9408473	1249388	13.0591527	11459157.4	57	3	8.727	6.9408473	1249388	13.0591527	11459157.4	57	3	8.727	6.9408473	1249388	13.0591527	11459157.4	57	3	8.727	6.9408473	1249388	13.0591527	11459157.4	57																									
4	11.636	7.0657860	969100	12.9342140	8594368.9	56	4	11.636	7.0657860	969101	12.9342140	8594368.9	56	4	11.636	7.0657860	969101	12.9342140	8594368.9	56	4	11.636	7.0657860	969101	12.9342140	8594368.9	56	4	11.636	7.0657860	969101	12.9342140	8594368.9	56																									
5	14.544	7.1626960	669100	12.8373040	6875496.0	55	5	14.544	7.1626960	669101	12.8373040	6875496.0	55	5	14.544	7.1626960	669101	12.8373040	6875496.0	55	5	14.544	7.1626960	669101	12.8373040	6875496.0	55	5	14.544	7.1626960	669101	12.8373040	6875496.0	55																									
6	17.453	7.2418771	791811	12.7581229	5729580.9	54	6	17.453	7.2418771	791812	12.7581229	5729580.9	54	6	17.453	7.2418771	791812	12.7581229	5729580.9	54	6	17.453	7.2418771	791812	12.7581229	5729580.9	54	6	17.453	7.2418771	791812	12.7581229	5729580.9	54																									
7	20.362	7.3088239	669468	12.6911761	4911070.2	53	7	20.362	7.3088239	669469	12.6911761	4911070.2	53	7	20.362	7.3088239	669469	12.6911761	4911070.2	53	7	20.362	7.3088239	669469	12.6911761	4911070.2	53	7	20.362	7.3088239	669469	12.6911761	4911070.2	53																									
8	23.271	7.3668157	579918	12.6321843	4297187.3	52	8	23.271	7.3668157	579919	12.6321843	4297187.3	52	8	23.271	7.3668157	579919	12.6321843	4297187.3	52	8	23.271	7.3668157	579919	12.6321843	4297187.3	52	8	23.271	7.3668157	579919	12.6321843	4297187.3	52																									
9	26.180	7.4179681	457574	12.5820319	3819723.0	51	9	26.180	7.4179681	457575	12.5820319	3819723.0	51	9	26.180	7.4179681	457575	12.5820319	3819723.0	51	9	26.180	7.4179681	457575	12.5820319	3819723.0	51	9	26.180	7.4179681	457575	12.5820319	3819723.0	51																									
10	29.089	7.4637255	413926	12.5362745	3437751.6	50	10	29.089	7.4637255	413927	12.5362745	3437751.6	50	10	29.089	7.4637255	413927	12.5362745	3437751.6	50	10	29.089	7.4637255	413927	12.5362745	3437751.6	50	10	29.089	7.4637255	413927	12.5362745	3437751.6	50																									
11	31.998	7.5051181	377884	12.4948819	3125229.7	49	11	31.998	7.5051181	377885	12.4948819	3125229.7	49	11	31.998	7.5051181	377885	12.4948819	3125229.7	49	11	31.998	7.5051181	377885	12.4948819	3125229.7	49	11	31.998	7.5051181	377885	12.4948819	3125229.7	49																									
12	34.906	7.5429055	347619	12.4570935	2864794.8	48	12	34.906	7.5429055	347620	12.4570935	2864794.8	48	12	34.906	7.5429055	347620	12.4570935	2864794.8	48	12	34.906	7.5429055	347620	12.4570935	2864794.8	48	12	34.906	7.5429055	347620	12.4570935	2864794.8	48																									
13	37.815	7.5776684	347619	12.4223316	2644426.9	47	13	37.815	7.5776684	347620	12.4223316	2644426.9	47	13	37.815	7.5776684	347620	12.4223316	2644426.9	47	13	37.815	7.5776684	347620	12.4223316	2644426.9	47	13	37.815	7.5776684	347620	12.4223316	2644426.9	47																									
14	40.724	7.6098530	299630	12.3901470	2455540.2	46	14	40.724	7.6098530	299631	12.3901470	2455540.2	46	14	40.724	7.6098530	299631	12.3901470	2455540.2	46	14	40.724	7.6098530	299631	12.3901470	2455540.2	46	14	40.724	7.6098530	299631	12.3901470	2455540.2	46																									
15	43.633	7.6398160	280285	12.3601840	2291838.5	45	15	43.633	7.6398160	280286	12.3601840	2291838.5	45	15	43.633	7.6398160	280286	12.3601840	2291838.5	45	15	43.633	7.6398160	280286	12.3601840	2291838.5	45	15	43.633	7.6398160	280286	12.3601840	2291838.5	45																									
16	46.542	7.6678445	263288	12.3321555	2148599.5	44	16	46.542	7.6678445	263289	12.3321555	2148599.5	44	16	46.542	7.6678445	263289	12.3321555	2148599.5	44	16	46.542	7.6678445	263289	12.3321555	2148599.5	44	16	46.542	7.6678445	263289	12.3321555	2148599.5	44																									
17	49.451	7.6941733	248235	12.3058267	2022212.4	43	17	49.451	7.6941733	248236	12.3058267	2022212.4	43	17	49.451	7.6941733	248236	12.3058267	2022212.4	43	17	49.451	7.6941733	248236	12.3058267	2022212.4	43	17	49.451	7.6941733	248236	12.3058267	2022212.4	43																									
18	52.360	7.7189966	234809	12.2810034	1909868.0	42	18	52.360	7.7189966	234810	12.2810034	1909868.0	42	18	52.360	7.7189966	234810	12.2810034	1909868.0	42	18	52.360	7.7189966	234810	12.2810034	1909868.0	42	18	52.360	7.7189966	234810	12.2810034	1909868.0	42																									
19	55.268	7.7424775	222762	12.2575225	1809349.6	41	19	55.268	7.7424775	222763	12.2575225	1809349.6	41	19	55.268	7.7424775	222763	12.2575225	1809349.6	41	19	55.268	7.7424775	222763	12.2575225	1809349.6	41	19	55.268	7.7424775	222763	12.2575225	1809349.6	41																									
20	58.177	7.7647537	211890	12.2352463	1718883.1	40	20	58.177	7.7647537	211891	12.2352463	1718883.1	40	20	58.177	7.7647537	211891	12.2352463	1718883.1	40	20	58.177	7.7647537	211891	12.2352463	1718883.1	40	20	58.177	7.7647537	211891	12.2352463	1718883.1	40																									
21	61.086	7.7859427	202031	12.2140573	1637032.5	39	21	61.086	7.7859427	202032	12.2140573	1637032.5	39	21	61.086	7.7859427	202032	12.2140573	1637032.5	39	21	61.086	7.7859427	202032	12.2140573	1637032.5	39	21	61.086	7.7859427	202032	12.2140573	1637032.5	39																									
22	63.995	7.8061458	193049	12.1938542	1562622.8	38	22	63.995	7.8061458	193050	12.1938542	1562622.8	38	22	63.995	7.8061458	193050	12.1938542	1562622.8	38	22	63.995	7.8061458	193050	12.1938542	1562622.8	38	22	63.995	7.8061458	193050	12.1938542	1562622.8	38																									
23	66.904	7.8254507	184831	12.1745493	1494683.7	37	23	66.904	7.8254507	184832	12.1745493	1494683.7	37	23	66.904	7.8254507	184832	12.1745493	1494683.7	37	23	66.904	7.8254507	184832	12.1745493	1494683.7	37	23	66.904	7.8254507	184832	12.1745493	1494683.7	37																									
24	69.813	7.8439338	177285	12.1560662	1432406.1	36	24	69.813	7.8439338	177286	12.1560662	1432406.1	36	24	69.813	7.8439338	177286	12.1560662	1432406.1	36	24	69.813	7.8439338	177286	12.1560662	1432406.1	36	24	69.813	7.8439338	177286	12.1560662	1432406.1	36																									
25	72.721	7.8616623	170330	12.1383377	1375110.8	35	25	72.721	7.8616623	170331	12.1383377	1375110.8	35	25	72.721	7.8616623	170331	12.1383377	1375110.8	35	25	72.721	7.8616623	170331	12.1383377	1375110.8	35	25	72.721	7.8616623	170331	12.1383377	1375110.8	35																									
26	75.630	7.8786953	163901	12.1213047	1322222.9	34	26	75.630	7.8786953	163902	12.1213047	1322222.9	34	26	75.630	7.8786953	163902	12.1213047	1322222.9	34	26	75.630	7.8786953	163902	12.1213047	1322222.9	34	26	75.630	7.8786953	163902	12.1213047	1322222.9	34																									
27	78.539	7.8950854	157939	12.1049146	1273252.6	33	27	78.539	7.8950854	157940	12.1049146	1273252.6	33	27	78.539	7.8950854	157940	12.1049146	1273252.6	33	27	78.539	7.8950854	157940	12.1049146	1273252.6	33	27	78.539	7.8950854	157940	12.1049146	1273252.6	33																									
28	81.448	7.9108793	152397	12.0891207	1227780.3	32	28	81.448	7.9108793	152398	12.0891207	1227780.3	32	28	81.448	7.9108793	152398	12.0891207	1227780.3	32	28	81.448	7.9108793	152398	12.0891207	1227780.3	32	28	81.448	7.9108793	152398	12.0891207	1227780.3	32																									
29	84.357	7.9261190	147229	12.0738810	1185444.0	31	29	84.357																																																			

Infinit.		N. Sec.		L. Sec.		D.	
Infinit.	Infinit.	o	10000.000	10.0000000	100000000	100000000	60
13.5362739	34377466.759	1	10000.000	10.0000000	100000000	9999.999	59
13.2352438	17188731.958	2	10000.002	10.0000001	100000001	9999.998	58
13.0591525	11459153.057	3	10000.004	10.0000002	100000002	9999.996	57
12.9321377	8594363.056	4	10000.007	10.0000005	100000005	9999.993	56
12.8730366	6875488.755	5	10000.011	10.0000007	100000007	9999.989	55
12.7581222	5729572.154	6	10000.016	10.0000007	100000007	9999.984	54
12.6911752	4911060.053	7	10000.021	10.0000009	100000009	9999.979	53
12.6231831	4297175.752	8	10000.027	10.0000012	100000012	9999.973	52
12.5820304	3819709.951	9	10000.034	10.0000015	100000015	9999.966	51
12.5362727	3437737.150	10	10000.042	10.0000018	100000018	9999.958	50
12.4948797	3125137.499	11	10000.051	10.0000022	100000022	9999.949	49
12.4570909	2864777.348	12	10000.051	10.0000026	100000026	9999.939	48
12.4223285	2644408.047	13	10000.072	10.0000031	100000031	9999.924	47
12.3901434	2455119.846	14	10000.083	10.0000036	100000036	9999.917	46
12.3601799	2291816.645	15	10000.095	10.0000041	100000041	9999.905	45
12.3321503	2148576.244	16	10000.108	10.0000047	100000047	9999.892	44
12.3058214	2022187.543	17	10000.122	10.0000053	100000053	9999.873	43
12.2809794	1903041.942	18	10000.137	10.0000060	100000060	9999.862	42
12.2575159	1803322.041	19	10000.153	10.0000066	100000066	9999.847	41
12.2352390	1718854.040	20	10000.170	10.0000073	100000073	9999.830	40
12.2140492	1637001.939	21	10000.187	10.0000081	100000081	9999.813	39
12.1938453	1562590.838	22	10000.205	10.0000089	100000089	9999.795	38
12.1745396	1494650.237	23	10000.224	10.0000097	100000097	9999.776	37
12.1560556	1432371.236	24	10000.244	10.0000106	100000106	9999.756	36
12.1383262	1375074.535	25	10000.265	10.0000115	100000115	9999.735	35
12.1212923	1322185.134	26	10000.286	10.0000124	100000124	9999.713	34
12.1049012	1273213.433	27	10000.308	10.0000134	100000134	9999.691	33
12.0891062	1227739.632	28	10000.331	10.0000144	100000144	9999.668	32
12.0738656	1185401.831	29	10000.355	10.0000155	100000155	9999.644	31
12.0591416	1145386.530	30	10000.380	10.0000166	100000166	9999.619	30
12.0449004	1108920.529	31	10000.406	10.0000177	100000177	9999.593	29
12.0311114	1074264.828	32	10000.433	10.0000188	100000188	9999.566	28
12.0177466	1041709.427	33	10000.461	10.0000200	100000200	9999.539	27
12.0047803	1011069.026	34	10000.489	10.0000212	100000212	9999.511	26
11.9921903	982179.425	35	10000.518	10.0000225	100000225	9999.482	25
11.9795555	954894.7524	36	10000.548	10.0000238	100000238	9999.452	24
11.9680554	929084.8723	37	10000.579	10.0000252	100000252	9999.421	23
11.9564726	904633.3622	38	10000.611	10.0000266	100000266	9999.389	22
11.9451906	881435.7221	39	10000.644	10.0000279	100000279	9999.356	21
11.9341943	859397.9120	40	10000.677	10.0000294	100000294	9999.322	20
11.9234694	838435.0719	41	10000.711	10.0000309	100000309	9999.289	19
11.9130030	818470.4118	42	10000.746	10.0000324	100000324	9999.254	18
11.9027828	799434.3017	43	10000.782	10.0000340	100000340	9999.218	17
11.8927975	781263.4216	44	10000.819	10.0000356	100000356	9999.181	16
11.8830366	763900.0915	45	10000.857	10.0000372	100000372	9999.143	15
11.8734901	747291.6514	46	10000.896	10.0000389	100000389	9999.104	14
11.8641492	731389.9113	47	10000.935	10.0000406	100000406	9999.065	13
11.8550044	716150.7012	48	10000.975	10.0000423	100000423	9999.025	12
11.8460434	701533.4611	49	10001.016	10.0000441	100000441	9998.984	11
11.8372733	687500.8710	50	10001.058	10.0000459	100000459	9998.942	10
11.8286718	674018.5409	51	10001.101	10.0000478	100000478	9998.899	9
11.8202374	661054.7308	52	10001.145	10.0000497	100000497	9998.855	8
11.8119636	648580.0817	53	10001.189	10.0000516	100000516	9998.811	7
11.8038444	636567.4116	54	10001.234	10.0000536	100000536	9998.766	6
11.7958741	624991.5415	55	10001.280	10.0000556	100000556	9998.720	5
11.7880474	613829.0514	56	10001.327	10.0000577	100000577	9998.673	4
11.7803592	603058.2013	57	10001.375	10.0000597	100000597	9998.625	3
11.7728047	592658.7212	58	10001.424	10.0000618	100000618	9998.576	2
11.7653792	582611.7411	59	10001.473	10.0000640	100000640	9998.527	1
11.7580785	572999.6210	60	10001.523	10.0000662	100000662	9998.477	0
L. Tan.		N. Tan.		D. L. Sin.		N. Sin.	
		89				30	

I	N. Sin.	L. Sin.	Diff.				I	N. Ta.	L. Tan.	Diff.
0	174.524	8.2418553		11.7581447	572986.88	60	0	174.551	8.2419215	71800
1	177.432	8.2490332	71779	11.7509668	563594.62	59	1	177.460	8.2491015	70634
2	180.341	8.2560943	70611	11.7439057	554505.34	58	2	180.370	8.2561649	69504
3	183.249	8.2630424	69481	11.7369576	545704.63	57	3	183.280	8.2631153	68410
4	186.158	8.2698810	68386	11.7301190	537178.96	56	4	186.190	8.2699563	67349
5	189.066	8.2766136	67326	11.7233864	528915.64	55	5	189.100	8.2766912	66322
6	191.974	8.2832434	66299	11.7167566	520902.72	54	6	192.010	8.2833234	65325
7	194.883	8.2897734	65300	11.7102266	513129.02	53	7	194.920	8.2898559	64358
8	197.791	8.2962067	64333	11.7037933	505583.96	52	8	197.830	8.2962917	63418
9	200.699	8.3025460	63393	11.6974540	498257.62	51	9	200.740	8.3026335	62507
10	203.608	8.3087941	62481	11.6912059	491140.62	50	10	203.650	8.3088842	61620
11	206.516	8.3149536	61595	11.6850464	484224.11	49	11	206.560	8.3150462	60759
12	209.424	8.3210269	60733	11.6789731	477499.74	48	12	209.470	8.3211221	59922
13	212.332	8.3270163	59894	11.6729837	470959.61	47	13	212.380	8.3271143	59106
14	215.241	8.3329243	59080	11.6670757	464596.25	46	14	215.291	8.3330249	58314
15	218.149	8.3387529	58286	11.6612471	458402.60	45	15	218.201	8.3388863	57542
16	221.057	8.3445043	57514	11.6554957	452371.95	44	16	221.111	8.3446105	56790
17	223.965	8.3501805	56762	11.6498195	446497.95	43	17	224.021	8.3502895	56058
18	226.873	8.3557835	56030	11.6442165	440774.58	42	18	226.932	8.3558953	55344
19	229.781	8.3613150	55315	11.6386850	435196.12	41	19	229.842	8.3614297	54648
20	232.690	8.3667769	54519	11.6332231	429757.13	40	20	232.753	8.3668945	53970
21	235.598	8.3721710	53741	11.6278290	424452.45	39	21	235.663	8.3722915	53308
22	238.506	8.3774988	52982	11.6225012	419277.17	38	22	238.574	8.3776223	52663
23	241.414	8.3827620	52232	11.6172380	414226.60	37	23	241.484	8.3828886	52032
24	244.322	8.3879622	51500	11.6120378	409296.29	36	24	244.395	8.3880918	51418
25	247.230	8.3931008	50785	11.6068992	404482.01	35	25	247.305	8.3932336	50816
26	250.138	8.3981793	50107	11.6018207	399779.69	34	26	250.216	8.3983152	50229
27	253.046	8.4031990	49462	11.5968010	395185.49	33	27	253.127	8.4033381	49656
28	255.954	8.4081614	48840	11.5918386	390695.71	32	28	256.038	8.4083037	49095
29	258.862	8.4130676	48241	11.5869324	386306.83	31	29	258.948	8.4132132	48547
30	261.769	8.4179190	47665	11.5820810	382015.50	30	30	261.859	8.4180679	48011
31	264.677	8.4227168	47111	11.5772832	377818.49	29	31	264.770	8.4228690	47486
32	267.585	8.4274621	46578	11.5725379	373712.73	28	32	267.681	8.4276176	46974
33	270.493	8.4321561	46068	11.5678439	369695.28	27	33	270.592	8.4323150	46472
34	273.401	8.4367995	45580	11.5632001	365763.32	26	34	273.503	8.4369622	45981
35	276.309	8.4413944	45105	11.5586056	361914.14	25	35	276.414	8.4415603	45500
36	279.216	8.4459409	44645	11.5540591	358145.17	24	36	279.325	8.4461103	45028
37	282.124	8.4504402	44200	11.5495598	354453.91	23	37	282.236	8.4506813	44568
38	285.032	8.4548934	43769	11.5451066	350838.00	22	38	285.148	8.4509699	44115
39	287.940	8.4593013	43351	11.5406987	347295.15	21	39	288.059	8.4594814	43672
40	290.847	8.4636649	42946	11.5363351	343823.16	20	40	290.970	8.4638486	43239
41	293.755	8.4679850	42554	11.5320150	340419.94	19	41	293.882	8.4681725	42813
42	296.663	8.4722626	42176	11.5277374	337083.45	18	42	296.793	8.4724538	42395
43	299.570	8.4764984	41811	11.5235016	333811.76	17	43	299.705	8.4766933	41987
44	302.478	8.4806932	41457	11.5193068	330603.00	16	44	302.616	8.4808920	41585
45	305.385	8.4848479	41113	11.5151521	327455.36	15	45	305.528	8.4850505	41191
46	308.293	8.4889632	40779	11.5110368	324367.13	14	46	308.439	8.4891696	40806
47	311.200	8.4930398	40456	11.5069602	321336.63	13	47	311.351	8.4932502	40426
48	314.108	8.4970784	40144	11.5029216	318362.25	12	48	314.263	8.4972928	40054
49	317.015	8.5010798	39842	11.4989202	315442.46	11	49	317.174	8.5012982	39683
50	319.922	8.5050447	39549	11.4949553	312575.77	10	50	320.086	8.5052671	39320
51	322.830	8.5089736	39265	11.4910264	309760.74	9	51	322.998	8.5092001	38977
52	325.737	8.5128673	38991	11.4871327	306995.98	8	52	325.910	8.5130978	38632
53	328.644	8.5167264	38726	11.4832736	304280.17	7	53	328.822	8.5169610	38292
54	331.552	8.5205514	38470	11.4794486	301612.01	6	54	331.734	8.5207902	37958
55	334.459	8.5243430	38223	11.4756570	298990.26	5	55	334.646	8.5245860	37630
56	337.366	8.5281017	37985	11.4718983	296413.73	4	56	337.558	8.5283490	37307
57	340.273	8.5318281	37756	11.4681719	293881.24	3	57	340.471	8.5320797	36990
58	343.181	8.5355228	37535	11.4644772	291391.69	2	58	343.383	8.5357787	36679
59	346.088	8.5391862	37322	11.4608137	288943.98	1	59	346.295	8.5394466	36372
60	348.995	8.5428192	37116	11.4571808	286537.08	0	60	349.208	8.5430838	
			Diff.	L. Sec.	N. Sec.	88				Diff.

			I N. Sec.			L. Sec.			D		
11.7580785	572899.6280		0	10001.523	10.0000662	22	9.9999338	9998.47760			
11.7508985	563505.9059		1	10001.574	10.0000684	22	9.9999316	9998.42659			
11.7438351	554415.1758		2	10001.626	10.0000706	22	9.9999294	9998.37458			
11.7368847	545613.0057		3	10001.679	10.0000729	23	9.9999271	9998.32157			
11.7300437	537085.8756		4	10001.733	10.0000753	23	9.9999247	9998.26756			
11.7233088	528821.0955		5	10001.788	10.0000776	23	9.9999224	9998.21255			
11.7166766	520806.7354		6	10001.843	10.0000800	24	9.9999200	9998.15754			
11.7101441	513031.5753		7	10001.899	10.0000825	25	9.9999175	9998.10153			
11.7037083	505485.0652		8	10001.956	10.0000850	25	9.9999150	9998.04452			
11.6973665	498157.2651		9	10002.014	10.0000875	25	9.9999125	9997.98651			
11.6911158	491038.8150		10	10002.073	10.0000900	26	9.9999100	9997.92750			
11.6849538	484120.8449		11	10002.133	10.0000926	26	9.9999074	9997.86749			
11.6788779	477395.0148		12	10002.194	10.0000953	27	9.9999047	9997.80648			
11.6728857	470853.4347		13	10002.255	10.0000979	26	9.9999021	9997.74547			
11.6669751	464488.6246		14	10002.317	10.0001006	27	9.9998994	9997.68346			
11.6611437	458293.5145		15	10002.380	10.0001034	28	9.9998966	9997.62045			
11.6553895	452261.4144		16	10002.444	10.0001061	28	9.9998939	9997.55644			
11.6497105	446385.9643		17	10002.509	10.0001089	29	9.9998911	9997.49143			
11.6441047	440661.1342		18	10002.575	10.0001118	29	9.9998882	9997.42542			
11.6385703	435081.2241		19	10002.641	10.0001147	29	9.9998855	9997.35941			
11.6331055	429640.7740		20	10002.708	10.0001176	30	9.9998824	9997.29240			
11.6277085	424334.6439		21	10002.776	10.0001206	30	9.9998794	9997.22439			
11.6223777	419157.9038		22	10002.845	10.0001236	30	9.9998764	9997.15538			
11.6171114	414105.8837		23	10002.915	10.0001266	31	9.9998734	9997.08537			
11.6119032	409174.1236		24	10002.986	10.0001297	31	9.9998703	9997.01436			
11.6067664	404358.3735		25	10003.058	10.0001328	31	9.9998672	9996.94335			
11.6016848	399654.6034		26	10003.130	10.0001359	32	9.9998641	9996.87134			
11.5966619	395058.9833		27	10003.203	10.0001391	32	9.9998609	9996.79833			
11.5916963	390567.7132		28	10003.277	10.0001423	33	9.9998577	9996.72432			
11.5867868	386177.3831		29	10003.352	10.0001456	33	9.9998544	9996.64931			
11.5819321	381884.5930		30	10003.428	10.0001488	34	9.9998512	9996.57330			
11.5771310	377686.1329		31	10003.505	10.0001522	34	9.9998478	9996.49629			
11.5723824	373578.9228		32	10003.582	10.0001555	35	9.9998445	9996.41928			
11.5676850	369560.8127		33	10003.660	10.0001589	35	9.9998411	9996.34127			
11.5630378	365626.5926		34	10003.739	10.0001624	35	9.9998376	9996.26226			
11.5584397	361775.9625		35	10003.819	10.0001658	36	9.9998342	9996.18225			
11.5538897	358005.5324		36	10003.900	10.0001694	36	9.9998306	9996.10124			
11.5493669	354312.8223		37	10003.982	10.0001729	37	9.9998271	9996.01923			
11.5449301	350695.4622		38	10004.065	10.0001765	37	9.9998235	9995.93622			
11.5405186	347151.1521		39	10004.148	10.0001801	38	9.9998199	9995.85321			
11.5361514	343677.7120		40	10004.232	10.0001838	37	9.9998162	9995.76920			
11.5318275	340273.0319		41	10004.317	10.0001875	37	9.9998125	9995.68419			
11.5275462	336935.0918		42	10004.403	10.0001912	37	9.9998088	9995.59818			
11.5233067	333661.9417		43	10004.490	10.0001950	38	9.9998050	9995.51117			
11.5191080	330451.7316		44	10004.578	10.0001988	38	9.9998012	9995.42416			
11.5149495	327302.6415		45	10004.667	10.0002026	39	9.9997974	9995.33615			
11.5108304	324212.9514		46	10004.756	10.0002065	39	9.9997935	9995.24714			
11.5067498	321180.9913		47	10004.846	10.0002104	40	9.9997896	9995.15713			
11.5027072	318205.1612		48	10004.937	10.0002144	39	9.9997856	9995.06612			
11.4987018	315283.9211		49	10005.029	10.0002183	41	9.9997817	9994.97411			
11.4947329	312415.7710		50	10005.122	10.0002224	41	9.9997776	9994.88110			
11.4907599	309599.2809		51	10005.215	10.0002264	40	9.9997736	9994.78809			
11.4869022	306833.0708		52	10005.309	10.0002305	42	9.9997695	9994.69408			
11.4830387	304115.8607		53	10005.405	10.0002347	41	9.9997653	9994.59907			
11.4792098	301446.1906		54	10005.501	10.0002388	41	9.9997612	9994.50306			
11.4754140	298822.9905		55	10005.598	10.0002430	42	9.9997570	9994.40605			
11.4716510	296244.9904		56	10005.696	10.0002473	43	9.9997527	9994.30804			
11.4679203	293711.0503		57	10005.795	10.0002516	43	9.9997484	9994.20903			
11.4642213	291220.0502		58	10005.894	10.0002559	43	9.9997441	9994.10902			
11.4605534	288770.8901		59	10005.994	10.0002602	44	9.9997398	9994.00901			
11.4569162	286362.5300		60	10006.095	10.0002646	44	9.9997354	9993.90800			
L. Tan.	N. Tan.	38					D. L. Sin.	N. S. n.	38		

2	N. Sin.	L. Sin.	Diff.				2	N. Tan.	L. Tan.	Diff.
0	348.995	8.5428192		11.4571808	286537.08	60	0	349.208	8.5430838	
1	351.902	8.5464218	36026	11.4535578	284169.97	59	1	351.120	8.5466909	36071
2	354.809	8.5499948	35730	11.4500052	281841.68	58	2	355.033	8.5502683	35774
3	357.716	8.5535386	35438	11.4464614	279551.25	57	3	357.945	8.5538166	35483
4	360.623	8.5570536	35150	11.4429464	277297.77	56	4	360.858	8.5573362	35196
5	363.530	8.5605404	34860	11.4394596	275080.35	55	5	363.771	8.5608276	34914
6	366.437	8.5639994	34590	11.4360006	272898.14	54	6	366.683	8.5642911	34636
7	369.344	8.5674310	34316	11.4325690	270750.30	53	7	369.596	8.5677275	34363
8	372.251	8.5708357	34047	11.4291643	268636.03	52	8	372.509	8.5711368	34093
9	375.158	8.5742139	33782	11.4257861	266554.55	51	9	375.422	8.5745197	33829
10	378.065	8.5775660	33521	11.4224340	264505.10	50	10	378.335	8.5778766	33569
11	380.971	8.5808923	33263	11.4191077	262486.94	49	11	381.248	8.5812077	33311
12	383.878	8.5841933	33010	11.4158067	260499.37	48	12	384.161	8.5845136	33059
13	386.785	8.5874694	32761	11.4125306	258541.69	47	13	387.074	8.5877945	32809
14	389.691	8.5907209	32515	11.4092791	256613.24	46	14	389.988	8.5910509	32564
15	392.598	8.5939483	32274	11.4060517	254713.37	45	15	392.901	8.5942832	32323
16	395.505	8.5971517	32034	11.4028483	252841.44	44	16	395.814	8.5974917	32085
17	398.411	8.6003317	31800	11.3996683	250996.85	43	17	398.728	8.6006767	31850
18	401.318	8.6034886	31569	11.3965114	249179.00	42	18	401.641	8.6038381	31619
19	404.224	8.6066262	31340	11.3933774	247387.31	41	19	404.555	8.6069777	31391
20	407.131	8.6097341	31115	11.3902659	245621.23	40	20	407.469	8.6100943	31166
21	410.037	8.6128235	30894	11.3871765	243880.20	39	21	410.383	8.6131889	30946
22	412.944	8.6158910	30675	11.3841090	242163.70	38	22	413.296	8.6162611	30727
23	415.850	8.6189369	30459	11.3810631	240471.21	37	23	416.210	8.6193127	30511
24	418.757	8.6219616	30247	11.3780384	238802.24	36	24	419.124	8.6223427	30300
25	421.663	8.6249655	30037	11.3750347	237156.30	35	25	422.038	8.6253518	30091
26	424.569	8.6279484	29831	11.3720516	235532.90	34	26	424.952	8.6283402	29884
27	427.475	8.6309111	29627	11.3690889	233931.61	33	27	427.866	8.6313108	29681
28	430.382	8.6338537	29426	11.3661463	232351.96	32	28	430.781	8.6342563	29480
29	433.288	8.6367764	29227	11.3632236	230793.51	31	29	433.695	8.6371845	29282
30	436.194	8.6396796	29032	11.3603204	229255.86	30	30	436.609	8.6400931	29086
31	439.100	8.6425634	28838	11.3574366	227738.57	29	31	439.524	8.6429825	28894
32	442.006	8.6454281	28640	11.3545718	226241.26	28	32	442.438	8.6458528	28703
33	444.912	8.6482742	28440	11.3517258	224763.52	27	33	445.353	8.6487044	28516
34	447.818	8.6511016	28247	11.3488984	223304.99	26	34	448.268	8.6515375	28331
35	450.724	8.6539107	28051	11.3460893	221865.28	25	35	451.182	8.6543522	28147
36	453.630	8.6567017	27910	11.3432983	220444.03	24	36	454.097	8.6571490	27968
37	456.536	8.6594748	27731	11.3405252	219040.90	23	37	457.012	8.6599297	27789
38	459.442	8.6622303	27555	11.3377697	217655.53	22	38	459.927	8.6626891	27612
39	462.347	8.6649684	27381	11.3350316	216287.59	21	39	462.842	8.6654331	27440
40	465.253	8.6676893	27209	11.3323107	214936.76	20	40	465.757	8.6681598	27267
41	468.159	8.6703932	27039	11.3296068	213602.72	19	41	468.673	8.6708697	27099
42	471.064	8.6730804	26872	11.3269196	212285.15	18	42	471.588	8.6735628	26931
43	473.970	8.6757510	26706	11.3242490	210983.75	17	43	474.503	8.6762393	26765
44	476.876	8.6784052	26542	11.3215948	209698.24	16	44	477.419	8.6788996	26603
45	479.781	8.6810433	26381	11.3189567	208428.30	15	45	480.334	8.6815437	26441
46	482.687	8.6836654	26221	11.3163346	207173.68	14	46	483.250	8.6841719	26282
47	485.592	8.6862718	26064	11.3137282	205934.09	13	47	486.166	8.6867844	26125
48	488.498	8.6888625	25907	11.3111375	204709.24	12	48	489.082	8.6893813	25969
49	491.403	8.6914379	25754	11.3085621	203498.92	11	49	491.997	8.6919629	25816
50	494.308	8.6939980	25601	11.3060019	202302.84	10	50	494.913	8.6945292	25663
51	497.214	8.6965431	25451	11.3034569	201120.75	9	51	497.829	8.6970806	25514
52	500.119	8.6990734	25303	11.3009266	199952.41	8	52	500.746	8.6996172	25366
53	503.024	8.7015889	25155	11.2984111	198797.58	7	53	503.662	8.7021390	25218
54	505.929	8.7040899	25010	11.2959101	197656.04	6	54	506.578	8.7046465	25075
55	508.835	8.7065766	24867	11.2934234	196527.54	5	55	509.495	8.7071395	24930
56	511.740	8.7090490	24724	11.2909510	195411.87	4	56	512.411	8.7096185	24790
57	514.645	8.7115075	24585	11.2884925	194308.82	3	57	515.328	8.7120834	24649
58	517.550	8.7139520	24445	11.2860480	193218.16	2	58	518.244	8.7145345	24511
59	520.455	8.7163829	24309	11.2836171	192139.70	1	59	521.161	8.7169719	24374
60	523.360	8.7188002	24173	11.2811998	191073.23	0	60	524.078	8.7193958	24239
			Diff.	L. Sec.	N. Sec.	57				Diff.

			N. Sec.	L. Sec.	D		
II.4569162	286362.5360	0	10006.035	10.0002646	45	9.9997354	9993.90860
II.4533091	283993.9759	1	10006.197	10.0002691	45	9.9997309	9993.80059
II.4457317	281664.2258	2	10006.300	10.0002735	44	9.9997265	9993.70358
II.4461834	279372.3357	3	10006.404	10.0002780	45	9.9997220	9993.59957
II.4426638	277117.4056	4	10006.509	10.0002826	46	9.9997174	9993.49556
II.4391724	27498.5355	5	10006.615	10.0002872	46	9.9997128	9993.39055
II.4375088	272714.8654	6	10006.721	10.0002918	46	9.9997082	9993.28454
II.4322725	270565.5753	7	10006.828	10.0002964	46	9.9997036	9993.17753
II.4288632	268449.8452	8	10006.936	10.0003011	47	9.9996990	9993.06952
II.4254803	266366.9051	9	10007.045	10.0003058	47	9.9996942	9992.96051
II.4221224	264316.0050	10	10007.155	10.0003106	48	9.9996894	9992.85150
II.4187923	262296.3849	11	10007.266	10.0003154	48	9.9996846	9992.74049
II.4154864	260307.3648	12	10007.377	10.0003202	48	9.9996799	9992.62948
II.4122055	258348.2347	13	10007.489	10.0003251	49	9.9996749	9992.51747
II.4089491	256418.3246	14	10007.602	10.0003300	49	9.9996700	9992.40446
II.4057168	254517.0045	15	10007.716	10.0003350	50	9.9996650	9992.29045
II.4025083	252643.6144	16	10007.831	10.0003399	49	9.9996601	9992.17744
II.3993235	250797.5743	17	10007.947	10.0003450	50	9.9996550	9992.06043
II.3961614	248978.2642	18	10008.063	10.0003500	50	9.9996500	9991.94442
II.3930223	247185.1241	19	10008.180	10.0003551	51	9.9996449	9991.82741
II.3899057	245417.5840	20	10008.298	10.0003602	51	9.9996398	9991.70940
II.3868111	243675.0939	21	10008.417	10.0003654	52	9.9996346	9991.59039
II.3837384	241957.1438	22	10008.537	10.0003706	52	9.9996294	9991.47038
II.3806873	240263.2037	23	10008.658	10.0003758	52	9.9996242	9991.34937
II.3776572	238592.7736	24	10008.780	10.0003811	53	9.9996189	9991.22836
II.3746424	236945.3735	25	10008.902	10.0003864	53	9.9996136	9991.10635
II.3716598	235320.5234	26	10009.025	10.0003918	54	9.9996082	9990.98334
II.3686917	233717.7733	27	10009.149	10.0003972	54	9.9996028	9990.85933
II.3657457	232136.6632	28	10009.274	10.0004026	54	9.9995974	9990.73432
II.3628155	230576.7731	29	10009.400	10.0004081	55	9.9995919	9990.60831
II.3599069	229037.6530	30	10009.527	10.0004135	56	9.9995865	9990.48230
II.3570175	227518.9229	31	10009.655	10.0004191	56	9.9995809	9990.35529
II.3541472	226020.5128	32	10009.783	10.0004247	56	9.9995753	9990.22728
II.3512956	224540.9627	33	10009.912	10.0004303	56	9.9995697	9990.09827
II.3484624	223080.9726	34	10010.042	10.0004360	56	9.9995641	9989.96826
II.3456478	221639.8025	35	10010.173	10.0004416	57	9.9995584	9989.83725
II.3428510	220217.1024	36	10010.305	10.0004473	57	9.9995527	9989.70524
II.3400721	218812.5123	37	10010.438	10.0004531	58	9.9995469	9989.57323
II.3373109	217425.6922	38	10010.571	10.0004589	58	9.9995411	9989.44022
II.3345669	216056.3021	39	10010.705	10.0004647	58	9.9995353	9989.30621
II.3318402	214704.0120	40	10010.840	10.0004705	59	9.9995295	9989.17120
II.3291303	213368.5119	41	10010.976	10.0004764	59	9.9995236	9989.03719
II.3264372	212049.4918	42	10011.113	10.0004822	60	9.9995176	9988.90218
II.3237607	210746.6417	43	10011.251	10.0004884	60	9.9995116	9988.76717
II.3211004	209455.9616	44	10011.390	10.0004944	60	9.9995056	9988.63216
II.3184563	208188.2815	45	10011.530	10.0005004	60	9.9994996	9988.49715
II.3158251	206932.2014	46	10011.670	10.0005065	61	9.9994935	9988.36214
II.3132156	205691.1513	47	10011.811	10.0005126	61	9.9994874	9988.22713
II.3106187	204464.8612	48	10011.953	10.0005188	62	9.9994812	9988.09212
II.3080371	203251.3071	49	10012.096	10.0005250	62	9.9994750	9987.95711
II.3054708	202050.5570	50	10012.240	10.0005312	62	9.9994688	9987.82210
II.3029194	200871.999	51	10012.385	10.0005375	63	9.9994625	9987.68709
II.3003288	199702.198	52	10012.530	10.0005438	63	9.9994562	9987.55208
II.2978610	198545.917	53	10012.676	10.0005502	64	9.9994498	9987.41707
II.2953535	197402.916	54	10012.823	10.0005565	64	9.9994435	9987.28206
II.2928605	196272.295	55	10012.971	10.0005630	65	9.9994370	9987.14705
II.2903815	195155.844	56	10013.120	10.0005694	65	9.9994306	9987.01204
II.2879166	194051.333	57	10013.270	10.0005759	65	9.9994241	9986.87703
II.2854655	192959.222	58	10013.420	10.0005824	66	9.9994176	9986.74202
II.2830281	191879.301	59	10013.571	10.0005890	66	9.9994110	9986.60701
II.2806042	190811.370	60	10013.723	10.0005956	66	9.9994044	9986.47200
L.Tan.	N.Tan.					D.L.Sin.	N.Sin.

N. Sin.	L. Sin.	Diff.			N. Tan.	L. Tan.	Diff.
0 523.360	8.7188002	24038	11.2811998	191073.2360	0 524.078	8.7193958	24105
1 526.264	8.7212040	23906	11.2787960	190018.5459	1 526.995	8.7218063	23972
2 529.169	8.7235946	23775	11.2764054	188975.4518	2 529.913	8.7242035	23842
3 532.074	8.7259721	23645	11.2740279	187943.7657	3 532.828	8.7265877	23712
4 534.979	8.7283366	23516	11.2716634	186923.3056	4 535.746	8.7289589	23585
5 537.883	8.7306882	23390	11.2693118	185913.8755	5 538.663	8.7313174	23457
6 540.788	8.7330272	23263	11.2669728	184915.3054	6 541.581	8.7336631	23333
7 543.693	8.7353535	23140	11.2646465	183927.4253	7 544.498	8.7359966	23208
8 546.597	8.7376675	23016	11.2623325	182950.0552	8 547.416	8.7383172	23086
9 549.502	8.7399691	22895	11.2600309	181983.0351	9 550.333	8.7406248	22964
10 552.406	8.7422586	22774	11.2577414	181026.1950	10 553.251	8.7429222	22845
11 555.313	8.7445360	22655	11.2554640	180079.3749	11 556.169	8.7452067	22725
12 558.215	8.7468015	22538	11.2531985	179142.4348	12 559.087	8.7474792	22608
13 561.119	8.7490553	22420	11.2509447	178215.2047	13 562.005	8.7497400	22492
14 564.024	8.7512973	22305	11.2487027	177297.5346	14 564.923	8.7519892	22377
15 566.928	8.7535278	22191	11.2464722	176389.2845	15 567.841	8.7542269	22262
16 569.832	8.7557469	22077	11.2442531	175490.3044	16 570.759	8.7564531	22150
17 572.736	8.7579546	21966	11.2420454	174600.4043	17 573.678	8.7586681	22038
18 575.640	8.7601512	21854	11.2398488	173719.6042	18 576.596	8.7608719	21928
19 578.544	8.7623366	21745	11.2376634	172847.6141	19 579.515	8.7630647	21818
20 581.448	8.7645111	21636	11.2354889	171984.3440	20 582.434	8.7652465	21710
21 584.352	8.7666747	21528	11.2333253	171129.6639	21 585.352	8.7674175	21602
22 587.256	8.7688275	21421	11.2311725	170283.3468	22 588.271	8.7695777	21497
23 590.160	8.7709697	21317	11.2290303	169445.5937	23 591.190	8.7717274	21391
24 593.064	8.7731014	21212	11.2268986	168615.9436	24 594.109	8.7738665	21287
25 595.967	8.7752226	21108	11.2247774	167794.3935	25 597.029	8.7759952	21184
26 598.871	8.7773334	21006	11.2226666	166980.8234	26 599.948	8.7781136	21082
27 601.775	8.7794340	20904	11.2205660	166175.1233	27 602.867	8.7802218	20981
28 604.678	8.7815244	20804	11.2184756	165377.1732	28 605.787	8.7823199	20880
29 607.582	8.7836048	20705	11.2163952	164586.8631	29 608.706	8.7844079	20782
30 610.485	8.7856753	20606	11.2143247	163804.0830	30 611.626	8.7864861	20683
31 613.389	8.7877359	20508	11.2122641	163028.7329	31 614.546	8.7885544	20586
32 616.292	8.7897867	20411	11.2102133	162260.6928	32 617.466	8.7906130	20490
33 619.196	8.7918278	20316	11.2081722	161499.8727	33 620.386	8.7926620	20394
34 622.099	8.7938594	20220	11.2061406	160746.1726	34 623.306	8.7947014	20299
35 625.002	8.7958814	20127	11.2041185	159999.4825	35 626.226	8.7967313	20206
36 627.905	8.7978941	20033	11.2021059	159259.7124	36 629.147	8.7987519	20113
37 630.808	8.7998974	19941	11.2001026	158526.7623	37 632.067	8.8007632	20021
38 633.711	8.8018915	19849	11.1981085	157800.5422	38 634.988	8.8027653	19930
39 636.614	8.8038764	19759	11.1961236	157080.9621	39 637.908	8.8047583	19839
40 639.517	8.8058523	19669	11.1941477	156367.9320	40 640.829	8.8067422	19750
41 642.420	8.8078192	19580	11.1921808	155661.3519	41 643.750	8.8087172	19662
42 645.323	8.8097772	19492	11.1902228	154961.1418	42 646.671	8.8106834	19573
43 648.226	8.8117264	19404	11.1882736	154267.2117	43 649.592	8.8126407	19487
44 651.129	8.8136668	19317	11.1863332	153579.4916	44 652.513	8.8145894	19400
45 654.031	8.8155985	19232	11.1844015	152897.8815	45 655.435	8.8165294	19314
46 656.934	8.8175217	19148	11.1824783	152222.3114	46 658.356	8.8184608	19230
47 659.836	8.8194363	19062	11.1805637	151552.7013	47 661.278	8.8203838	19146
48 662.739	8.8213425	18979	11.1786575	150888.9612	48 664.199	8.8222984	19062
49 665.641	8.8232404	18895	11.1767596	150231.0311	49 667.121	8.8242046	18980
50 668.544	8.8251299	18813	11.1748701	149578.8210	50 670.042	8.8261024	18898
51 671.446	8.8270112	18732	11.1729888	148932.2609	51 672.964	8.8279924	18818
52 674.348	8.8288844	18651	11.1711156	148291.2808	52 675.887	8.8298741	18737
53 677.251	8.8307495	18571	11.1692505	147655.8007	53 678.809	8.8317478	18656
54 680.153	8.8326066	18491	11.1673934	147025.7606	54 681.732	8.8336134	18575
55 683.055	8.8344557	18412	11.1655443	146401.0905	55 684.654	8.8354712	18492
56 685.957	8.8362969	18335	11.1637031	145781.7104	56 687.577	8.8373211	18412
57 688.859	8.8381304	18257	11.1618696	145167.6703	57 690.499	8.8391633	18334
58 691.761	8.8399561	18180	11.1600439	144558.9902	58 693.422	8.8409977	18258
59 694.663	8.8417741	18104	11.1582259	143954.7101	59 696.345	8.8428245	18182
60 697.565	8.8435845	18029	11.1564155	143355.8700	60 699.268	8.8446437	18107
		Diff.	L. Sec.	N. Sec. 180			Diff.

			N. Sec.	L. Sec.	D		
I. 280642	190811.5766	0	19013.723	10.0005956	66	9.9994044	9986.29560
I. 2781937	189755.2359	1	10013.876	10.0006022	67	9.9993978	9986.14259
I. 2757965	188710.6858	2	10014.030	10.0006089	68	9.9993911	9985.98958
I. 2734223	187677.5457	3	10014.185	10.0006156	69	9.9993844	9985.83557
I. 2710411	186655.6256	4	10014.341	10.0006224	70	9.9993776	9985.68056
I. 2685820	185644.7355	5	10014.498	10.0006292	71	9.9993708	9985.52455
I. 2663369	184644.7154	6	10014.655	10.0006360	72	9.9993640	9985.36754
I. 2640036	183655.3753	7	10014.813	10.0006428	73	9.9993572	9985.20953
I. 2616828	182676.1452	8	10014.972	10.0006497	74	9.9993503	9985.05052
I. 2593742	181708.0751	9	10015.132	10.0006567	75	9.9993433	9984.89151
I. 2570778	180749.7750	10	10015.293	10.0006636	76	9.9993364	9984.73150
I. 2547933	179801.5049	11	10015.455	10.0006707	77	9.9993293	9984.57049
I. 2525208	178863.1048	12	10015.617	10.0006777	78	9.9993223	9984.40948
I. 2502600	177934.4247	13	10015.780	10.0006848	79	9.9993152	9984.24547
I. 2480108	177015.2946	14	10015.944	10.0006919	80	9.9993081	9984.08146
I. 2457731	176105.5945	15	10016.109	10.0006991	81	9.9993009	9983.91645
I. 2435469	175205.1644	16	10016.275	10.0007062	82	9.9992938	9983.75144
I. 2413319	174313.8543	17	10016.442	10.0007135	83	9.9992865	9983.58543
I. 2391281	173431.5542	18	10016.610	10.0007207	84	9.9992793	9983.41842
I. 2369353	172558.0941	19	10016.778	10.0007280	85	9.9992720	9983.25041
I. 2347535	171693.3740	20	10016.947	10.0007354	86	9.9992646	9983.08140
I. 2325834	170837.2439	21	10017.117	10.0007428	87	9.9992572	9982.91139
I. 2304223	169989.5738	22	10017.288	10.0007502	88	9.9992498	9982.74138
I. 2282766	169150.2537	23	10017.460	10.0007576	89	9.9992424	9982.57037
I. 2261355	168319.1536	24	10017.633	10.0007651	90	9.9992349	9982.39836
I. 2240048	167496.1435	25	10017.807	10.0007725	91	9.9992274	9982.22535
I. 2218864	166681.1234	26	10017.981	10.0007802	92	9.9992198	9982.05134
I. 2197782	165873.9633	27	10018.156	10.0007878	93	9.9992122	9981.87633
I. 2176801	165074.5532	28	10018.332	10.0007954	94	9.9992046	9981.70132
I. 2155921	164282.7931	29	10018.509	10.0008031	95	9.9991969	9981.52531
I. 2135139	163498.1630	30	10018.687	10.0008108	96	9.9991892	9981.34830
I. 2114456	162731.7429	31	10018.866	10.0008185	97	9.9991815	9981.17029
I. 2093870	161952.3528	32	10019.046	10.0008263	98	9.9991737	9980.99128
I. 2073380	161189.9827	33	10019.226	10.0008341	99	9.9991659	9980.81127
I. 2052986	160434.8226	34	10019.407	10.0008420	00	9.9991580	9980.63026
I. 2032687	159686.6725	35	10019.589	10.0008499	01	9.9991501	9980.44925
I. 2012481	158945.4524	36	10019.772	10.0008578	02	9.9991422	9980.26724
I. 1992368	158211.0423	37	10019.956	10.0008658	03	9.9991342	9980.08423
I. 1972347	157483.3722	38	10020.141	10.0008738	04	9.9991262	9979.90022
I. 1952417	156762.3221	39	10020.326	10.0008818	05	9.9991182	9979.71521
I. 1932578	156047.8420	40	10020.512	10.0008899	06	9.9991101	9979.52920
I. 1912828	155339.8119	41	10020.699	10.0008980	07	9.9991020	9979.34319
I. 1893166	154638.1418	42	10020.837	10.0009062	08	9.9990938	9979.15618
I. 1873593	153942.7617	43	10021.076	10.0009144	09	9.9990856	9978.96817
I. 1854106	153253.5816	44	10021.266	10.0009226	10	9.9990774	9978.77916
I. 1834706	152570.5215	45	10021.457	10.0009309	11	9.9990691	9978.58915
I. 1815392	151893.4914	46	10021.649	10.0009392	12	9.9990608	9978.39814
I. 1796163	151222.4213	47	10021.841	10.0009475	13	9.9990525	9978.20613
I. 1777016	150557.2312	48	10022.034	10.0009559	14	9.9990441	9978.01412
I. 1757954	149897.8411	49	10022.228	10.0009643	15	9.9990357	9977.82111
I. 1738974	149244.1710	50	10022.423	10.0009727	16	9.9990273	9977.62710
I. 1720076	148596.1509	51	10022.619	10.0009812	17	9.9990188	9977.43209
I. 1701359	147953.7208	52	10022.816	10.0009897	18	9.9990103	9977.23608
I. 1682822	147316.7907	53	10023.013	10.0009983	19	9.9990017	9977.03907
I. 1663866	146685.2906	54	10023.211	10.0010069	20	9.9989931	9976.84206
I. 1645288	146059.1605	55	10023.410	10.0010155	21	9.9989845	9976.64405
I. 1626789	145438.3304	56	10023.610	10.0010242	22	9.9989758	9976.44504
I. 1608367	144822.7303	57	10023.811	10.0010329	23	9.9989671	9976.24503
I. 1590023	144212.3002	58	10024.013	10.0010416	24	9.9989584	9976.04402
I. 1571755	143606.9601	59	10024.215	10.0010504	25	9.9989496	9975.84201
I. 1553563	143006.6600	60	10024.419	10.0010592	26	9.9989408	9975.64000
L. Tan.	N. Tan. 86				D	L. Sin.	N. Sin. 86

4	N. Sin.	L. Sin.	Diff.			4	N. Ta.	L. Tan.	Diff.
0	697.565	8.8435845	18029	11.1564155	143355.87	60	0699.268	8.8446437	18117
1	700.466	8.8453874	17953	11.1546126	142762.00	59	1702.191	8.8464554	18043
2	703.368	8.8471827	17880	11.1528173	142173.04	58	2705.115	8.8482597	17969
3	706.270	8.8489797	17805	11.1510293	141588.94	57	3708.038	8.8500566	17895
4	709.171	8.8507512	17733	11.1492488	141009.62	56	4710.961	8.8518461	17822
5	712.073	8.8525245	17660	11.1474755	140435.04	55	5713.885	8.8536283	17751
6	714.974	8.8542905	17588	11.1457095	139865.14	54	6716.809	8.8554034	17679
7	717.876	8.8560493	17517	11.1439507	139299.85	53	7719.733	8.8571713	17608
8	720.777	8.8578010	17447	11.1421990	138739.13	52	8722.657	8.8589321	17538
9	723.678	8.8595457	17376	11.1404543	138182.91	51	9725.581	8.8606859	17468
10	726.580	8.8612833	17306	11.1387167	137631.15	50	10728.505	8.8624327	17398
11	729.481	8.8630135	17237	11.1369861	137083.79	49	11731.430	8.8641735	17330
12	732.382	8.8647376	17169	11.1352624	136540.77	48	12734.354	8.8659055	17262
13	735.283	8.8664545	17101	11.1335455	136002.05	47	13737.279	8.8676317	17194
14	738.184	8.8681646	17034	11.1318354	135457.58	46	14740.203	8.8693531	17127
15	741.085	8.8698680	16969	11.1301320	134937.31	45	15743.128	8.8710638	17061
16	743.986	8.8715646	16900	11.1284354	134411.18	44	16746.053	8.8727699	16995
17	746.887	8.8732546	16835	11.1267454	133889.14	43	17748.979	8.8744694	16929
18	749.788	8.8749381	16769	11.1250619	133371.16	42	18751.904	8.8761623	16864
19	752.688	8.8766150	16704	11.1233850	132857.19	41	19754.829	8.8778487	16799
20	755.589	8.8782854	16639	11.1217146	132347.16	40	20757.755	8.8795286	16736
21	758.489	8.8799493	16576	11.1200507	131841.06	39	21760.680	8.8812022	16672
22	761.390	8.8816069	16512	11.1183931	131338.82	38	22763.606	8.8828694	16609
23	764.290	8.8832581	16450	11.1167419	130840.40	37	23766.532	8.8845303	16547
24	767.190	8.8849031	16387	11.1150969	130345.76	36	24769.458	8.8861850	16484
25	770.091	8.8865418	16325	11.1134582	129854.86	35	25772.384	8.8878334	16423
26	772.991	8.8881743	16264	11.1118257	129367.65	34	26775.311	8.8894757	16362
27	775.891	8.8898007	16202	11.1101993	128884.10	33	27778.237	8.8911119	16301
28	778.791	8.8914209	16142	11.1085791	128404.15	32	28781.164	8.8927420	16240
29	781.691	8.8930351	16082	11.1069649	127927.79	31	29784.090	8.8943660	16182
30	784.591	8.8946433	16022	11.1053567	127454.95	30	30787.017	8.8959842	16121
31	787.491	8.8962455	15963	11.1037545	126985.60	29	31789.944	8.8975963	16062
32	790.391	8.8978416	15904	11.1021582	126519.71	28	32792.871	8.8992026	16004
33	793.290	8.8994322	15846	11.1005678	126057.24	27	33795.798	8.9008030	15947
34	796.190	8.9010168	15787	11.0989832	125598.15	26	34798.726	8.9023977	15889
35	799.090	8.9025955	15730	11.0974045	125142.40	25	35801.653	8.9039866	15831
36	801.989	8.9041685	15673	11.0958215	124689.95	24	36804.581	8.9055697	15775
37	804.889	8.9057358	15617	11.0942642	124240.78	23	37807.509	8.9071472	15718
38	807.788	8.9072978	15560	11.0927025	123794.84	22	38810.437	8.9087190	15663
39	810.687	8.9088535	15504	11.0911465	123352.10	21	39813.365	8.9102853	15607
40	813.587	8.9104039	15448	11.0895961	122912.52	20	40816.293	8.9118460	15552
41	816.486	8.9119487	15394	11.0880513	122476.08	19	41819.221	8.9134012	15497
42	819.385	8.9134881	15338	11.0865119	122042.74	18	42822.150	8.9149509	15443
43	822.284	8.9150219	15285	11.0849781	121612.46	17	43825.078	8.9164952	15388
44	825.183	8.9165504	15230	11.0834496	121185.22	16	44828.007	8.9180340	15335
45	828.082	8.9180734	15177	11.0819266	120760.98	15	45830.936	8.9195675	15282
46	830.981	8.9195911	15123	11.0804089	120339.70	14	46833.865	8.9210957	15229
47	833.880	8.9211034	15071	11.0788966	119921.37	13	47836.794	8.9226186	15177
48	836.778	8.9226105	15018	11.0773895	119505.95	12	48839.723	8.9241363	15124
49	839.677	8.9241123	14966	11.0758877	119093.40	11	49842.653	8.9256487	15073
50	842.576	8.9256089	14914	11.0743911	118683.70	10	50845.583	8.9271560	15021
51	845.474	8.9271034	14863	11.0728997	118276.83	9	51848.512	8.9286581	14971
52	848.373	8.9285966	14812	11.0714134	117872.74	8	52851.442	8.9301555	14921
53	851.271	8.9300876	14761	11.0699322	117471.41	7	53854.372	8.9316471	14871
54	854.169	8.9315739	14711	11.0684561	117072.82	6	54857.302	8.9331340	14820
55	857.067	8.9330550	14661	11.0669850	116676.93	5	55860.233	8.9346160	14769
56	859.966	8.9345311	14611	11.0655189	116283.72	4	56863.163	8.9360929	14719
57	862.864	8.9359942	14561	11.0640578	115893.16	3	57866.094	8.9375650	14671
58	865.762	8.9374563	14513	11.0626017	115505.23	2	58869.025	8.9390321	14623
59	868.660	8.9389174	14464	11.0611504	115119.90	1	59871.956	8.9404944	14574
60	871.557	8.9403760		11.0597040	114737.13	0	60874.887	8.9419518	
			Diff.	L. Sec.	N. Sec.	85			Diff.

			4	N. Sec.	L. Sec.	D			
11.1553563	142006.66	60	0	10024.419	10.0010592		9.9989478	9975.640	60
11.1535446	142411.34	59	1	10024.623	10.0010681	89	9.9989313	9975.437	59
11.1517403	141820.92	58	2	10024.828	10.0010770	89	9.9989230	9975.233	58
11.1499434	141235.36	57	3	10025.034	10.0010859	89	9.9989141	9975.028	57
11.1481539	140654.59	56	4	10025.241	10.0010948	89	9.9989052	9974.822	56
11.1463717	140078.56	55	5	10025.449	10.0011038	90	9.9988962	9974.615	55
11.1445965	139507.19	54	6	10025.658	10.0011129	91	9.9988871	9974.407	54
11.1428287	138940.45	53	7	10025.868	10.0011220	91	9.9988780	9974.195	53
11.1410679	138378.27	52	8	10026.078	10.0011311	91	9.9988689	9973.990	52
11.1393141	137820.60	51	9	10026.289	10.0011402	91	9.9988598	9973.780	51
11.1375673	137267.38	50	10	10026.501	10.0011494	92	9.9988506	9973.569	50
11.1358275	136718.56	49	11	10026.714	10.0011586	92	9.9988414	9973.357	49
11.1340945	136174.09	48	12	10026.928	10.0011679	93	9.9988321	9973.144	48
11.1323683	135633.91	47	13	10027.143	10.0011772	93	9.9988228	9972.931	47
11.1306489	135097.99	46	14	10027.358	10.0011865	93	9.9988135	9972.717	46
11.1289362	134566.25	45	15	10027.574	10.0011959	94	9.9988041	9972.502	45
11.1272301	134038.67	44	16	10027.791	10.0012053	94	9.9987947	9972.286	44
11.1255306	133515.18	43	17	10028.009	10.0012147	94	9.9987853	9972.069	43
11.1238377	132995.74	42	18	10028.228	10.0012242	95	9.9987758	9971.851	42
11.1221513	132480.31	41	19	10028.448	10.0012337	95	9.9987663	9971.632	41
11.1204714	131968.83	40	20	10028.668	10.0012433	96	9.9987567	9971.413	40
11.1187978	131461.27	39	21	10028.889	10.0012529	96	9.9987471	9971.195	39
11.1171306	130957.57	38	22	10029.111	10.0012625	96	9.9987375	9970.972	38
11.1154697	130457.69	37	23	10029.334	10.0012722	97	9.9987278	9970.750	37
11.1138150	129961.60	36	24	10029.558	10.0012819	97	9.9987181	9970.527	36
11.1121666	129469.24	35	25	10029.783	10.0012916	97	9.9987084	9970.303	35
11.1105243	128980.58	34	26	10030.009	10.0013014	98	9.9986986	9970.079	34
11.1088881	128495.57	33	27	10030.236	10.0013112	98	9.9986888	9969.854	33
11.1072580	128014.17	32	28	10030.464	10.0013210	98	9.9986790	9969.628	32
11.1056340	127536.34	31	29	10030.693	10.0013309	99	9.9986691	9969.401	31
11.1040158	127062.05	30	30	10030.922	10.0013409	100	9.9986591	9969.173	30
11.1024037	126591.25	29	31	10031.152	10.0013508	99	9.9986492	9968.944	29
11.1007974	126123.90	28	32	10031.383	10.0013608	100	9.9986392	9968.715	28
11.0991970	125659.97	27	33	10031.615	10.0013708	100	9.9986292	9968.485	27
11.0976023	125199.42	26	34	10031.848	10.0013809	101	9.9986191	9968.254	26
11.0960134	124742.21	25	35	10032.081	10.0013910	101	9.9986090	9968.022	25
11.0944303	124288.31	24	36	10032.315	10.0014012	102	9.9985988	9967.789	24
11.0928528	123837.68	23	37	10032.550	10.0014114	102	9.9985886	9967.555	23
11.0912810	123390.28	22	38	10032.786	10.0014216	102	9.9985784	9967.320	22
11.0897147	122946.08	21	39	10033.023	10.0014318	102	9.9985682	9967.085	21
11.0881540	122505.06	20	40	10033.261	10.0014421	103	9.9985579	9966.849	20
11.0865988	122067.16	19	41	10033.500	10.0014525	103	9.9985475	9966.612	19
11.0850491	121632.36	18	42	10033.740	10.0014628	104	9.9985372	9966.374	18
11.0835048	121200.62	17	43	10033.980	10.0014732	104	9.9985268	9966.135	17
11.0819660	120771.92	16	44	10034.221	10.0014837	105	9.9985163	9965.895	16
11.0804325	120346.22	15	45	10034.463	10.0014942	105	9.9985058	9965.655	15
11.0789043	119923.49	14	46	10034.706	10.0015047	105	9.9984953	9965.414	14
11.0773814	119503.70	13	47	10034.950	10.0015152	105	9.9984848	9965.172	13
11.0758637	119086.82	12	48	10035.195	10.0015258	106	9.9984742	9964.929	12
11.0743513	118672.82	11	49	10035.441	10.0015364	106	9.9984636	9964.685	11
11.0728440	118261.67	10	50	10035.687	10.0015471	107	9.9984529	9964.440	10
11.0713419	117853.33	9	51	10035.934	10.0015578	107	9.9984422	9964.194	9
11.0698448	117447.79	8	52	10036.182	10.0015685	107	9.9984315	9963.948	8
11.0683529	117045.00	7	53	10036.431	10.0015793	108	9.9984207	9963.701	7
11.0668660	116644.95	6	54	10036.681	10.0015901	108	9.9984099	9963.453	6
11.0653840	116247.61	5	55	10036.932	10.0016010	109	9.9983990	9963.204	5
11.0639071	115852.94	4	56	10037.184	10.0016119	109	9.9983881	9962.954	4
11.0624350	115460.93	3	57	10037.436	10.0016228	109	9.9983772	9962.703	3
11.0609679	115075.14	2	58	10037.689	10.0016337	109	9.9983663	9962.452	2
11.0595056	114684.74	1	59	10037.943	10.0016447	110	9.9983553	9962.200	1
11.0580482	114300.52	0	60	10038.198	10.0016558	111	9.9983444	9961.947	0

L. Tan. N. Tan. 185

D L. Sin. N. Sin. 125

5	N. Sin.	L. Sin.	Diff.			5	N. Tan.	L. Tan.	Diff.
0	871.557	8.9402960	11.0597040	114737.13	60	0	874.887	8.9419518	145.26
1	874.455	8.9417376	14416	114356.92	59	1	877.818	8.9431044	14479
2	877.353	8.9431743	14367	113979.22	58	2	880.749	8.9442523	14431
3	880.251	8.9446055	14318	113604.02	57	3	883.681	8.9454054	14384
4	883.148	8.9460335	14272	113231.29	56	4	886.612	8.9465538	14338
5	886.046	8.9474561	14226	112861.01	55	5	889.544	8.9477026	14291
6	888.943	8.9488739	14178	112493.16	54	6	892.476	8.9488517	14244
7	891.840	8.9502871	14132	112127.70	53	7	895.408	8.9500011	14199
8	894.738	8.9516957	14086	111764.62	52	8	898.341	8.9511508	14154
9	897.635	8.9530995	14039	111403.89	51	9	901.273	8.9523008	14108
10	900.532	8.9544991	13995	111044.59	50	10	904.206	8.9534511	14063
11	903.429	8.9558940	13949	110689.40	49	11	907.138	8.9546018	14019
12	906.326	8.9572843	13903	110335.60	48	12	910.071	8.9557528	13974
13	909.223	8.9586707	13860	109984.06	47	13	913.004	8.9569042	13931
14	912.119	8.9600517	13814	109634.76	46	14	915.938	8.9580561	13886
15	915.016	8.9614288	13771	109287.68	45	15	918.871	8.9592084	13843
16	917.913	8.9628014	13726	108942.81	44	16	921.804	8.9603611	13800
17	920.809	8.9641697	13683	108600.11	43	17	924.738	8.9615142	13756
18	923.706	8.9655337	13640	108259.57	42	18	927.672	8.9626678	13714
19	926.602	8.9668934	13597	107921.17	41	19	930.606	8.9638218	13672
20	929.499	8.9682487	13553	107584.88	40	20	933.540	8.9649763	13629
21	932.395	8.9695999	13512	107250.70	39	21	936.474	8.9661313	13588
22	935.291	8.9709468	13469	106918.59	38	22	939.409	8.9672868	13545
23	938.187	8.9722894	13427	106588.54	37	23	942.344	8.9684428	13505
24	941.083	8.9736280	13385	106260.54	36	24	945.278	8.9695993	13463
25	943.979	8.9749624	13344	105934.55	35	25	948.213	8.9707564	13421
26	946.875	8.9762926	13302	105610.57	34	26	951.148	8.9719141	13382
27	949.771	8.9776183	13262	105288.57	33	27	954.084	8.9730724	13341
28	952.666	8.9789408	13220	104968.54	32	28	957.019	8.9742313	13301
29	955.562	8.9802589	13181	104650.46	31	29	959.955	8.9753908	13262
30	958.458	8.9815729	13140	104334.30	30	30	962.890	8.9765509	13222
31	961.353	8.9828829	13100	104020.07	29	31	965.826	8.9777116	13182
32	964.248	8.9841889	13060	103707.72	28	32	968.763	8.9788729	13144
33	967.144	8.9854910	13021	103397.26	27	33	971.699	8.9799948	13104
34	970.039	8.9867891	12981	103088.66	26	34	974.635	8.9811173	13066
35	972.934	8.9880834	12943	102781.90	25	35	977.572	8.9822404	13027
36	975.829	8.9893737	12903	102476.97	24	36	980.509	8.9833641	12989
37	978.724	8.9906602	12865	102173.85	23	37	983.446	8.9844884	12951
38	981.619	8.9919429	12827	101872.54	22	38	986.383	8.9856134	12913
39	984.514	8.9932217	12788	101573.00	21	39	989.320	8.9867391	12876
40	987.408	8.9944968	12751	101275.22	20	40	992.257	8.9878654	12838
41	990.303	8.9957681	12713	100979.20	19	41	995.195	8.9889924	12801
42	993.197	8.9970356	12675	100684.91	18	42	998.133	8.9901199	12764
43	996.092	8.9982994	12638	100392.34	17	43	1001.071	8.9912480	12728
44	998.986	8.9995595	12601	100101.47	16	44	1004.009	8.9923767	12691
45	1001.881	8.0008160	12565	99812.29	15	45	1006.947	8.9935061	12655
46	1004.775	8.0020687	12527	99524.78	14	46	1009.885	8.9946361	12619
47	1007.669	8.0033179	12492	99238.94	13	47	1012.824	8.9957667	12584
48	1010.563	8.0045634	12455	98954.74	12	48	1015.763	8.9968979	12547
49	1013.457	8.0058053	12419	98672.17	11	49	1018.701	8.9980297	12511
50	1016.351	8.0070436	12383	98391.22	10	50	1021.641	8.9991621	12475
51	1019.245	8.0082784	12348	98111.88	9	51	1024.580	9.0002951	12439
52	1022.138	8.0095096	12312	97834.12	8	52	1027.520	9.0014287	12403
53	1025.032	8.0107374	12278	97557.94	7	53	1030.460	9.0025629	12367
54	1027.925	8.0119616	12242	97283.32	6	54	1033.400	9.0036978	12331
55	1030.819	8.0131823	12207	97010.26	5	55	1036.340	9.0048333	12295
56	1033.712	8.0143996	12173	96738.73	4	56	1039.280	9.0059694	12260
57	1036.605	8.0156135	12139	96468.72	3	57	1042.220	9.0071061	12224
58	1039.499	8.0168239	12104	96200.22	2	58	1045.160	9.0082434	12189
59	1042.392	8.0180309	12070	95933.23	1	59	1048.101	9.0093814	12153
60	1045.285	8.0192346	12037	95667.72	0	60	1051.042	9.0105201	12118
			Diff.	L. Sec.	N. Sec.				Diff.

		5	N. Sec.	L. Sec.	D.		
11.0580482	114300.5260	0	10038.198	10.0016558	9.9982442	9961.693	60
11.0565956	113918.8559	1	10038.454	10.0016668	9.9982332	9961.693	59
11.0551477	113139.7058	2	10038.711	10.0016780	9.9982220	9961.438	58
11.0537046	111363.0457	3	10038.969	10.0016891	9.9982109	9961.182	57
11.0522622	111278.8556	4	10039.228	10.0017002	9.9982000	9960.926	56
11.0508324	112417.1255	5	10039.487	10.0017115	9.9981885	9960.669	55
11.0494033	112047.8054	6	10039.747	10.0017228	9.9981772	9960.411	54
11.0479789	111680.8953	7	10040.008	10.0017340	9.9981660	9960.152	53
11.0465530	111316.3552	8	10040.270	10.0017454	9.9981546	9959.892	52
11.0451436	110954.1651	9	10040.533	10.0017567	9.9981433	9959.631	51
11.0437328	110594.3150	10	10040.797	10.0017682	9.9981318	9959.369	50
11.0423265	110236.7649	11	10041.061	10.0017796	9.9981204	9959.107	49
11.0409246	109881.5048	12	10041.326	10.0017911	9.9981089	9958.844	48
11.0395272	109528.5047	13	10041.592	10.0018026	9.9981074	9958.580	47
11.0381341	109177.7546	14	10041.859	10.0018141	9.9981059	9958.315	46
11.0367452	108829.2145	15	10042.127	10.0018257	9.9981043	9958.049	45
11.0353612	108482.8844	16	10042.396	10.0018374	9.9981026	9957.782	44
11.0339812	108138.7243	17	10042.666	10.0018490	9.9981010	9957.515	43
11.0326056	107796.7342	18	10042.937	10.0018607	9.9981093	9957.247	42
11.0312342	107456.8741	19	10043.208	10.0018725	9.9981075	9956.978	41
11.0298670	107119.240	20	10043.480	10.0018842	9.9981058	9956.709	40
11.0285041	106783.4839	21	10043.753	10.0018960	9.9981040	9956.437	39
11.0271453	106449.9238	22	10044.027	10.0019079	9.9981021	9956.165	38
11.0257908	106118.4137	23	10044.302	10.0019198	9.9981002	9955.892	37
11.0244403	105788.9536	24	10044.578	10.0019317	9.9980983	9955.619	36
11.0230940	105461.5135	25	10044.855	10.0019437	9.9980963	9955.345	35
11.0217517	105136.0734	26	10045.133	10.0019557	9.9980943	9955.070	34
11.0204135	104812.6133	27	10045.411	10.0019677	9.9980923	9954.794	33
11.0190794	104491.1232	28	10045.690	10.0019797	9.9980902	9954.517	32
11.0177493	104171.5831	29	10045.970	10.0019917	9.9980881	9954.240	31
11.0164231	103853.9730	30	10046.251	10.0020037	9.9980860	9953.962	30
11.0151009	103538.2729	31	10046.533	10.0020162	9.9980838	9953.683	29
11.0137827	103224.4728	32	10046.816	10.0020284	9.9980816	9953.403	28
11.0124683	102912.5527	33	10047.099	10.0020407	9.9980793	9953.122	27
11.0111579	102602.4926	34	10047.383	10.0020530	9.9980770	9952.840	26
11.0098513	102294.2825	35	10047.668	10.0020653	9.9980747	9952.557	25
11.0085486	101987.8924	36	10047.954	10.0020777	9.9980723	9952.274	24
11.0072497	101683.3223	37	10048.241	10.0020901	9.9980699	9951.990	23
11.0059546	101380.5422	38	10048.529	10.0021025	9.9980675	9951.705	22
11.0046633	101079.9421	39	10048.818	10.0021150	9.9980650	9951.419	21
11.0033757	100780.3120	40	10049.108	10.0021275	9.9980625	9951.132	20
11.0020919	100482.8319	41	10049.399	10.0021401	9.9980600	9950.844	19
11.0008117	100187.0818	42	10049.690	10.0021527	9.9980575	9950.555	18
10.9995353	99893.0507	43	10049.982	10.0021653	9.9980550	9950.266	17
10.9982625	99607.7216	44	10050.275	10.0021780	9.9980525	9949.976	16
10.9969934	993310.0885	45	10050.569	10.0021907	9.9980500	9949.685	15
10.9957279	990521.1254	46	10050.864	10.0022034	9.9980475	9949.393	14
10.9944660	987733.8233	47	10051.160	10.0022162	9.9980450	9949.100	13
10.9932076	984951.1662	48	10051.457	10.0022290	9.9980425	9948.806	12
10.9919529	982164.1401	49	10051.754	10.0022418	9.9980400	9948.512	11
10.9907016	979381.7320	50	10052.052	10.0022547	9.9980375	9948.217	10
10.9894539	976602.9279	51	10052.351	10.0022676	9.9980350	9947.921	9
10.9882097	973821.7153	52	10052.651	10.0022806	9.9980325	9947.624	8
10.9869690	971044.0757	53	10052.952	10.0022936	9.9980300	9947.327	7
10.9857318	968268.0006	54	10053.254	10.0023067	9.9980275	9947.027	6
10.9844979	965493.4755	55	10053.557	10.0023197	9.9980250	9946.728	5
10.9832675	962720.4864	56	10053.860	10.0023328	9.9980225	9946.428	4
10.9820406	959949.0223	57	10054.164	10.0023460	9.9980200	9946.127	3
10.9808169	957179.0683	58	10054.469	10.0023592	9.9980175	9945.825	2
10.9795967	954410.6131	59	10054.775	10.0023724	9.9980150	9945.522	1
10.9783798	951643.6450	60	10055.082	10.0023857	9.9980125	9945.218	0
L. Tan.	N. Tan.	54			D. L. Sin.	N. Sin.	54

6	N. Sin.	L. Sin.	Diff.			6	N. Tan.	L. Tan.	Diff.
0	1045.285	9.0192346		10.9807654	95667.722	60	1051.042	9.0216202	
1	1045.178	9.0204348	12002	10.9795652	95403.686	59	1053.983	9.0228338	12136
2	1045.070	9.0216318	11970	10.9783682	95141.110	58	1056.924	9.0240441	12103
3	1045.963	9.0228354	11936	10.9771746	94879.984	57	1059.866	9.0252510	12069
4	1045.856	9.0240357	11903	10.9759843	94620.296	56	1062.808	9.0264548	12038
5	1045.748	9.0252307	11870	10.9747973	94362.033	55	1065.750	9.0276552	12004
6	1045.641	9.0264386	11838	10.9736135	94105.184	54	1068.692	9.0288524	11972
7	1065.533	9.0276669	11804	10.9724331	93849.738	53	1071.634	9.0300464	11940
8	1068.425	9.0287442	11773	10.9712558	93595.682	52	1074.576	9.0312373	11909
9	1071.318	9.0299182	11740	10.9700818	93343.006	51	1077.519	9.0324249	11876
10	1074.210	9.0310890	11708	10.9689110	93091.699	50	1080.462	9.0336093	11844
11	1077.102	9.0322567	11677	10.9677433	92841.749	49	1083.405	9.0347906	11813
12	1079.994	9.0334212	11645	10.9665788	92593.145	48	1086.348	9.0359688	11782
13	1082.885	9.0345825	11613	10.9654175	92345.877	47	1089.291	9.0371439	11751
14	1085.777	9.0357407	11582	10.9642593	92099.934	46	1092.234	9.0383159	11720
15	1088.669	9.0368958	11551	10.9631042	91855.305	45	1095.178	9.0394848	11689
16	1091.560	9.0380477	11519	10.9619523	91611.980	44	1098.122	9.0406506	11658
17	1094.452	9.0391966	11489	10.9608034	91369.949	43	1101.066	9.0418134	11628
18	1097.343	9.0403424	11458	10.9596576	91129.200	42	1104.010	9.0429731	11597
19	1100.234	9.0414852	11428	10.9585148	90889.725	41	1106.954	9.0441299	11568
20	1103.126	9.0426249	11397	10.9573751	90651.512	40	1109.899	9.0452836	11537
21	1106.017	9.0437617	11368	10.9562383	90414.553	39	1112.844	9.0464343	11507
22	1108.909	9.0448954	11337	10.9551046	90178.837	38	1115.789	9.0475821	11478
23	1111.799	9.0460261	11307	10.9539739	89944.354	37	1118.734	9.0487270	11449
24	1114.689	9.0471538	11277	10.9528462	89711.035	36	1121.679	9.0498689	11419
25	1117.580	9.0482786	11248	10.9517214	89479.051	35	1124.625	9.0510078	11389
26	1120.471	9.0494035	11219	10.9505995	89248.211	34	1127.571	9.0521439	11359
27	1123.361	9.0505194	11189	10.9494806	89018.567	33	1130.517	9.0532771	11332
28	1126.252	9.0516354	11160	10.9483646	88790.109	32	1133.463	9.0544074	11305
29	1129.142	9.0527485	11131	10.9472515	88562.828	31	1136.409	9.0555349	11278
30	1132.032	9.0538588	11103	10.9461412	88336.715	30	1139.356	9.0566595	11246
31	1134.922	9.0549661	11073	10.9450339	88111.761	29	1142.303	9.0577813	11218
32	1137.812	9.0560706	11045	10.9439294	87887.957	28	1145.250	9.0589002	11189
33	1140.702	9.0571723	11017	10.9428277	87665.295	27	1148.197	9.0600164	11162
34	1143.592	9.0582711	10988	10.9417289	87443.766	26	1151.144	9.0611297	11133
35	1146.482	9.0593672	10959	10.9406328	87223.361	25	1154.091	9.0622403	11106
36	1149.371	9.0604604	10932	10.9395396	87004.071	24	1157.035	9.0633482	11079
37	1152.261	9.0615509	10905	10.9384491	86785.889	23	1159.987	9.0644533	11051
38	1155.151	9.0626386	10877	10.9373614	86568.805	22	1162.935	9.0655556	11023
39	1158.040	9.0637235	10849	10.9362765	86352.812	21	1165.883	9.0666552	10997
40	1160.929	9.0648057	10822	10.9351943	86137.901	20	1168.831	9.0677522	10969
41	1163.818	9.0658852	10795	10.9341148	85924.065	19	1171.780	9.0688465	10943
42	1166.707	9.0669619	10767	10.9330381	85711.295	18	1174.729	9.0699281	10916
43	1169.596	9.0680360	10741	10.9319640	85499.584	17	1177.678	9.0710170	10889
44	1172.485	9.0691074	10714	10.9308926	85288.923	16	1180.628	9.0721133	10863
45	1175.374	9.0701761	10687	10.9298239	85079.304	15	1183.578	9.0732169	10836
46	1178.263	9.0712421	10660	10.9287579	84870.721	14	1186.528	9.0743279	10810
47	1181.151	9.0723055	10634	10.9276945	84663.165	13	1189.478	9.0754363	10784
48	1184.040	9.0733663	10608	10.9266337	84456.629	12	1192.428	9.0765431	10758
49	1186.928	9.0744244	10581	10.9255756	84251.105	11	1195.378	9.0776503	10732
50	1189.816	9.0754799	10555	10.9245201	84046.586	10	1198.328	9.0787576	10707
51	1192.704	9.0765329	10530	10.9234671	83843.065	9	1201.279	9.0798641	10681
52	1195.593	9.0775832	10503	10.9224168	83640.534	8	1204.230	9.0809706	10655
53	1198.481	9.0786310	10478	10.9213690	83438.986	7	1207.181	9.0820772	10630
54	1201.368	9.0796762	10452	10.9203238	83238.415	6	1210.132	9.0831833	10605
55	1204.256	9.0807189	10427	10.9192811	83038.812	5	1213.084	9.0842891	10580
56	1207.144	9.0817599	10401	10.9182410	82840.171	4	1216.036	9.0853946	10555
57	1210.031	9.0827966	10376	10.9172034	82642.485	3	1218.988	9.0865000	10530
58	1212.919	9.0838317	10351	10.9161683	82445.748	2	1221.940	9.0876051	10505
59	1215.806	9.0848643	10326	10.9151357	82249.952	1	1224.893	9.0887098	10480
60	1218.693	9.0858945	10302	10.9141055	82055.090	0	1227.846	9.0898143	10457
			Diff.	L. Sec.	N. Sec.				Diff.

			6	N. Sec.	L. Sec.	D				
10.9783798	95143.645	60	0	10055.082	10.0023857	132	9.9976143	9945.218	60	
10.9771662	94878.149	59	1	10055.390	10.0023989	134	9.9976011	9944.914	59	
10.9759159	94614.116	58	2	10055.699	10.0024123	136	9.9975877	9944.609	58	
10.9747490	94351.531	57	3	10056.003	10.0024257	138	9.9975743	9944.303	57	
10.9735452	94090.384	56	4	10056.320	10.0024391	140	9.9975609	9943.996	56	
10.9723448	93830.663	55	5	10056.631	10.0024525	142	9.9975475	9943.688	55	
10.9711476	93572.355	54	6	10056.943	10.0024660	144	9.9975340	9943.379	54	
10.9699536	93315.450	53	7	10057.256	10.0024795	146	9.9975205	9943.069	53	
10.9687427	93059.936	52	8	10057.570	10.0024931	148	9.9975069	9942.759	52	
10.9675751	92805.802	51	9	10057.885	10.0025067	150	9.9974933	9942.448	51	
10.9663907	92553.035	50	10	10058.201	10.0025203	152	9.9974797	9942.136	50	
10.9652094	92301.627	49	11	10058.518	10.0025340	154	9.9974660	9941.823	49	
10.9640312	92051.564	48	12	10058.835	10.0025477	156	9.9974523	9941.509	48	
10.9628561	91802.338	47	13	10059.153	10.0025614	158	9.9974386	9941.194	47	
10.9616841	91555.436	46	14	10059.472	10.0025752	160	9.9974243	9940.879	46	
10.9605155	91302.348	45	15	10059.792	10.0025890	162	9.9974101	9940.563	45	
10.9593490	91064.564	44	16	10060.113	10.0026029	164	9.9973971	9940.246	44	
10.9581866	90821.074	43	17	10060.435	10.0026167	166	9.9973833	9939.928	43	
10.9570269	90578.867	42	18	10060.758	10.0026307	168	9.9973693	9939.609	42	
10.9558701	90337.933	41	19	10061.081	10.0026445	170	9.9973554	9939.289	41	
10.9547164	90098.261	40	20	10061.405	10.0026586	172	9.9973414	9938.969	40	
10.9535657	89859.343	39	21	10061.730	10.0026727	174	9.9973273	9938.648	39	
10.9524179	89622.666	38	22	10062.056	10.0026868	176	9.9973132	9938.326	38	
10.9512730	89386.726	37	23	10062.383	10.0027009	178	9.9972991	9938.003	37	
10.9501311	89152.008	36	24	10062.711	10.0027150	180	9.9972850	9937.679	36	
10.9489922	88918.105	35	25	10063.040	10.0027292	182	9.9972708	9937.354	35	
10.9478561	88686.206	34	26	10063.376	10.0027434	184	9.9972566	9937.028	34	
10.9467224	88455.103	33	27	10063.701	10.0027577	186	9.9972423	9936.702	33	
10.9455926	88225.186	32	28	10064.032	10.0027720	188	9.9972280	9936.375	32	
10.9444651	87996.445	31	29	10064.364	10.0027863	190	9.9972137	9936.047	31	
10.9433405	87768.874	30	30	10064.697	10.0028007	192	9.9971993	9935.718	30	
10.9422187	87542.461	29	31	10065.031	10.0028151	194	9.9971849	9935.388	29	
10.9410998	87317.198	28	32	10065.366	10.0028296	196	9.9971704	9935.058	28	
10.9399836	87093.077	27	33	10065.702	10.0028441	198	9.9971559	9934.727	27	
10.9388703	86870.088	26	34	10066.039	10.0028586	200	9.9971414	9934.395	26	
10.9377597	86648.223	25	35	10066.377	10.0028732	202	9.9971268	9934.062	25	
10.9366518	86427.333	24	36	10066.715	10.0028878	204	9.9971122	9933.728	24	
10.9355467	86207.333	23	37	10067.054	10.0029024	206	9.9970976	9933.393	23	
10.9344444	85989.290	22	38	10067.394	10.0029171	208	9.9970829	9933.057	22	
10.9333447	85771.838	21	39	10067.735	10.0029318	210	9.9970682	9932.720	21	
10.9322478	85555.468	20	40	10068.077	10.0029465	212	9.9970535	9932.383	20	
10.9311533	85340.172	19	41	10068.420	10.0029613	214	9.9970387	9932.045	19	
10.9300619	85125.942	18	42	10068.764	10.0029761	216	9.9970239	9931.706	18	
10.9289730	84912.772	17	43	10069.108	10.0029910	218	9.9970090	9931.366	17	
10.9278867	84700.651	16	44	10069.453	10.0030059	220	9.9969941	9931.025	16	
10.9268031	84489.573	15	45	10069.799	10.0030208	222	9.9969792	9930.684	15	
10.9257221	84279.531	14	46	10070.146	10.0030358	224	9.9969642	9930.342	14	
10.9246437	84070.515	13	47	10070.494	10.0030508	226	9.9969492	9929.999	13	
10.9235679	83862.519	12	48	10070.843	10.0030658	228	9.9969342	9929.655	12	
10.9224947	83655.536	11	49	10071.193	10.0030809	230	9.9969191	9929.310	11	
10.9214240	83449.557	10	50	10071.544	10.0030960	232	9.9969040	9928.964	10	
10.9203559	83244.577	9	51	10071.896	10.0031112	234	9.9968888	9928.617	9	
10.9192904	83040.586	8	52	10072.248	10.0031264	236	9.9968736	9928.270	8	
10.9182274	82837.579	7	53	10072.601	10.0031416	238	9.9968584	9927.922	7	
10.9171669	82635.542	6	54	10072.955	10.0031569	240	9.9968431	9927.573	6	
10.9161089	82434.485	5	55	10073.310	10.0031722	242	9.9968278	9927.223	5	
10.9150534	82234.384	4	56	10073.666	10.0031875	244	9.9968125	9926.872	4	
10.9140004	82035.239	3	57	10074.023	10.0032029	246	9.9967971	9926.521	3	
10.9129499	81837.041	2	58	10074.381	10.0032183	248	9.9967817	9926.169	2	
10.9119019	81639.786	1	59	10074.740	10.0032338	250	9.9967662	9925.816	1	
10.9108562	81443.464	0	60	10075.099	10.0032493	252	9.9967507	9925.462	0	
L. Tan.	N. Tan.	83					D	L. Sin.	N. Sin.	83

7	N. Sin.	L. Sin.	Diff.			7	N. Tan.	L. Tan.	Diff.
0	1218.692	9.0858345		10.9141055	82055.090	60	1227.846	9.0891438	
1	1221.581	9.0869221	10276	10.9137779	81861.157	59	1230.799	9.0901869	10431
2	1224.468	9.0879473	10252	10.9130527	81668.145	58	1233.752	9.0912277	10403
3	1227.355	9.0889700	10227	10.9110300	81476.048	57	1236.705	9.0922660	10383
4	1230.241	9.0899903	10203	10.9100097	81284.860	56	1239.658	9.0933020	10360
5	1233.128	9.0910082	10179	10.9089918	81094.573	55	1242.612	9.0943355	10335
6	1236.015	9.0920237	10155	10.9079763	80905.182	54	1245.566	9.0953667	10312
7	1238.901	9.0930367	10130	10.9069633	80716.681	53	1248.520	9.0963955	10288
8	1241.788	9.0940474	10107	10.9059526	80529.062	52	1251.474	9.0974219	10264
9	1244.674	9.0950556	10082	10.9049444	80342.321	51	1254.429	9.0984460	10241
10	1247.560	9.0960615	10059	10.9039385	80156.450	50	1257.384	9.0994678	10218
11	1250.446	9.0970651	10036	10.9029349	79971.445	49	1260.339	9.1004872	10194
12	1253.332	9.0980662	10011	10.9019338	79787.298	48	1263.294	9.1015044	10172
13	1256.218	9.0990651	9989	10.9009349	79604.003	47	1266.249	9.1025192	10148
14	1259.104	9.1000616	9965	10.8999384	79421.556	46	1269.205	9.1035317	10125
15	1261.990	9.1010558	9942	10.8989442	79239.950	45	1272.161	9.1045420	10103
16	1264.875	9.1020477	9919	10.8979523	79059.179	44	1275.117	9.1055500	10080
17	1267.761	9.1030373	9895	10.8969627	78879.238	43	1278.073	9.1065557	10057
18	1270.646	9.1040246	9872	10.8959754	78700.120	42	1281.029	9.1075591	10034
19	1273.531	9.1050096	9848	10.8949904	78521.821	41	1283.986	9.1085604	10013
20	1276.416	9.1059924	9828	10.8940076	78344.335	40	1286.943	9.1095594	9990
21	1279.301	9.1069729	9805	10.8930271	78167.656	39	1289.900	9.1105562	9968
22	1282.186	9.1079512	9783	10.8920488	77991.778	38	1292.857	9.1115508	9946
23	1285.071	9.1089272	9760	10.8910728	77816.697	37	1295.815	9.1125431	9925
24	1287.956	9.1099010	9738	10.8900990	77642.406	36	1298.773	9.1135333	9902
25	1290.841	9.1108726	9716	10.8891274	77468.901	35	1301.731	9.1145213	9880
26	1293.725	9.1118420	9694	10.8881580	77296.176	34	1304.689	9.1155072	9859
27	1296.609	9.1128092	9672	10.8871908	77124.227	33	1307.648	9.1164909	9837
28	1299.494	9.1137742	9650	10.8862258	76953.047	32	1310.607	9.1174720	9815
29	1302.378	9.1147370	9628	10.8852630	76782.631	31	1313.566	9.1184518	9794
30	1305.262	9.1156977	9607	10.8843023	76612.976	30	1316.525	9.1194291	9773
31	1308.146	9.1166562	9585	10.8833438	76444.075	29	1319.484	9.1204043	9752
32	1311.030	9.1176125	9563	10.8823875	76275.923	28	1322.444	9.1213773	9730
33	1313.913	9.1185667	9542	10.8814333	76108.516	27	1325.404	9.1223482	9709
34	1316.797	9.1195188	9521	10.8804812	75941.849	26	1328.364	9.1233171	9689
35	1319.681	9.1204688	9500	10.8795312	75775.916	25	1331.324	9.1242839	9668
36	1322.564	9.1214167	9479	10.8785833	75610.713	24	1334.285	9.1252486	9647
37	1325.447	9.1223624	9457	10.8776376	75446.236	23	1337.246	9.1262112	9626
38	1328.330	9.1233061	9437	10.8766939	75282.478	22	1340.207	9.1271718	9606
39	1331.213	9.1242477	9416	10.8757523	75119.437	21	1343.168	9.1281303	9585
40	1334.095	9.1251872	9395	10.8748128	74957.106	20	1346.129	9.1290868	9565
41	1336.979	9.1261246	9374	10.8738754	74795.481	19	1349.091	9.1300414	9545
42	1339.862	9.1270600	9354	10.8729400	74634.560	18	1352.053	9.1309937	9524
43	1342.744	9.1279934	9334	10.8720066	74474.335	17	1355.015	9.1319442	9505
44	1345.627	9.1289247	9313	10.8710753	74314.803	16	1357.977	9.1328926	9484
45	1348.509	9.1298539	9292	10.8701461	74155.959	15	1360.940	9.1338391	9465
46	1351.392	9.1307812	9273	10.8692188	73997.798	14	1363.903	9.1347835	9444
47	1354.274	9.1317064	9252	10.8682936	73840.318	13	1366.866	9.1357260	9425
48	1357.156	9.1326297	9233	10.8673703	73683.512	12	1369.829	9.1366665	9405
49	1360.038	9.1335509	9212	10.8664491	73527.377	11	1372.793	9.1376051	9386
50	1362.919	9.1344702	9193	10.8655298	73371.905	10	1375.757	9.1385417	9366
51	1365.801	9.1353875	9173	10.8646125	73217.102	9	1378.721	9.1394764	9347
52	1368.683	9.1363028	9153	10.8636972	73062.954	8	1381.685	9.1404092	9328
53	1371.564	9.1372161	9133	10.8627839	72909.460	7	1384.650	9.1413400	9308
54	1374.445	9.1381275	9114	10.8618725	72756.616	6	1387.615	9.1422689	9289
55	1377.327	9.1390370	9095	10.8609630	72604.417	5	1390.580	9.1431959	9270
56	1380.208	9.1399445	9075	10.8600555	72452.859	4	1393.545	9.1441210	9251
57	1383.089	9.1408501	9056	10.8591499	72301.940	3	1396.510	9.1450442	9232
58	1385.970	9.1417537	9036	10.8582463	72151.653	2	1399.476	9.1459655	9213
59	1388.850	9.1426555	9018	10.8573445	72001.996	1	1402.442	9.1468850	9195
60	1391.731	9.1435553	8998	10.8564447	71852.965	0	1405.408	9.1478025	9175
Diff.				L. Sec.	N. Sec.	82	Diff.		

			7	N. Sec.	L. Sec.	D.			
10.9108562	81443.464	60	0	10075.099	10.0032493	155	9.9967507	9725.462	60
10.9098131	81248.071	59	1	10075.459	10.0032648	156	9.9967352	9925.107	59
10.9087723	81053.599	58	2	10075.820	10.0032804	156	9.9967196	9924.751	58
10.9077340	80860.042	57	3	10076.182	10.0032960	156	9.9967040	9924.394	57
10.9066980	80667.394	56	4	10076.545	10.0033116	157	9.9966884	9924.036	56
10.9056645	80475.647	55	5	10076.909	10.0033273	157	9.9966727	9923.678	55
10.9046333	80284.796	54	6	10077.274	10.0033430	157	9.9966570	9923.319	54
10.9036045	80094.835	53	7	10077.639	10.0033588	158	9.9966412	9922.959	53
10.9025781	79905.756	52	8	10078.005	10.0033746	158	9.9966254	9922.598	52
10.9015540	79717.555	51	9	10078.372	10.0033904	158	9.9966096	9922.236	51
10.9005322	79530.224	50	10	10078.740	10.0034063	159	9.9965937	9921.874	50
10.8995128	79343.758	49	11	10079.109	10.0034222	159	9.9965778	9921.511	49
10.8984956	79158.151	48	12	10079.479	10.0034381	159	9.9965619	9921.147	48
10.8974808	78973.396	47	13	10079.850	10.0034541	160	9.9965459	9920.782	47
10.8964683	78789.489	46	14	10080.222	10.0034701	161	9.9965299	9920.416	46
10.8954580	78606.423	45	15	10080.595	10.0034862	161	9.9965138	9920.049	45
10.8944500	78424.191	44	16	10080.969	10.0035023	161	9.9964977	9919.681	44
10.8934443	78242.790	43	17	10081.343	10.0035184	161	9.9964816	9919.313	43
10.8924409	78062.212	42	18	10081.718	10.0035345	162	9.9964655	9918.944	42
10.8914396	77882.453	41	19	10082.094	10.0035507	163	9.9964493	9918.574	41
10.8904407	77703.506	40	20	10082.471	10.0035670	163	9.9964330	9918.203	40
10.8894438	77525.366	39	21	10082.849	10.0035833	163	9.9964167	9917.831	39
10.8884492	77348.028	38	22	10083.228	10.0035996	163	9.9964004	9917.459	38
10.8874569	77171.486	37	23	10083.607	10.0036159	163	9.9963841	9917.086	37
10.8864667	76995.735	36	24	10083.988	10.0036323	164	9.9963677	9916.712	36
10.8854787	76820.769	35	25	10084.370	10.0036487	164	9.9963513	9916.337	35
10.8844928	76646.584	34	26	10084.752	10.0036652	165	9.9963348	9915.961	34
10.8835091	76473.174	33	27	10085.135	10.0036817	165	9.9963183	9915.584	33
10.8825276	76300.533	32	28	10085.519	10.0036982	165	9.9963018	9915.206	32
10.8815482	76128.657	31	29	10085.904	10.0037148	166	9.9962852	9914.828	31
10.8805709	75957.541	30	30	10086.290	10.0037314	166	9.9962686	9914.449	30
10.8795957	75787.179	29	31	10086.677	10.0037481	167	9.9962519	9914.069	29
10.8786227	75617.672	28	32	10087.065	10.0037648	167	9.9962352	9913.688	28
10.8776518	75448.699	27	33	10087.453	10.0037815	167	9.9962185	9913.306	27
10.8766829	75280.571	26	34	10087.842	10.0037983	168	9.9962017	9912.923	26
10.8757161	75113.178	25	35	10088.232	10.0038151	168	9.9961849	9912.539	25
10.8747514	74946.514	24	36	10088.623	10.0038319	168	9.9961681	9912.155	24
10.8737888	74780.576	23	37	10089.015	10.0038488	169	9.9961512	9911.770	23
10.8728282	74615.357	22	38	10089.408	10.0038657	169	9.9961343	9911.384	22
10.8718697	74450.855	21	39	10089.802	10.0038826	170	9.9961174	9910.997	21
10.8709132	74287.064	20	40	10090.197	10.0038996	170	9.9961004	9910.609	20
10.8699587	74123.978	19	41	10090.592	10.0039166	171	9.9960834	9910.221	19
10.8690063	73961.595	18	42	10090.988	10.0039337	171	9.9960663	9909.832	18
10.8680558	73799.909	17	43	10091.385	10.0039508	171	9.9960492	9909.442	17
10.8671074	73638.916	16	44	10091.783	10.0039679	172	9.9960321	9909.051	16
10.8661609	73478.610	15	45	10092.182	10.0039851	172	9.9960149	9908.659	15
10.8652165	73318.939	14	46	10092.582	10.0040023	173	9.9959977	9908.266	14
10.8642740	73160.047	13	47	10092.983	10.0040196	173	9.9959804	9907.872	13
10.8633335	73001.780	12	48	10093.385	10.0040369	173	9.9959631	9907.478	12
10.8623949	72844.184	11	49	10093.788	10.0040542	173	9.9959458	9907.083	11
10.8614583	72687.255	10	50	10094.192	10.0040716	174	9.9959284	9906.687	10
10.8605236	72530.987	9	51	10094.596	10.0040890	175	9.9959111	9906.290	9
10.8595908	72375.378	8	52	10095.001	10.0041064	175	9.9958936	9905.892	8
10.8586600	72220.422	7	53	10095.407	10.0041239	175	9.9958761	9905.493	7
10.8577311	72066.116	6	54	10095.814	10.0041414	175	9.9958586	9905.094	6
10.8568041	71912.456	5	55	10096.222	10.0041589	175	9.9958411	9904.694	5
10.8558790	71759.437	4	56	10096.631	10.0041765	176	9.9958235	9904.293	4
10.8549558	71607.056	3	57	10097.041	10.0041941	177	9.9958059	9903.891	3
10.8540345	71455.308	2	58	10097.452	10.0042118	177	9.9957882	9903.488	2
10.8531150	71304.190	1	59	10097.864	10.0042295	177	9.9957705	9903.084	1
10.8521974	71153.697	0	60	10098.276	10.0042472	177	9.9957528	9902.680	0
L. Tan.	N. Tan	82				D.	L. Sin.	N. Sin.	82

N. Sin.	L. Sin.	Dit.			
0 1391.731	9.1435553	8979	10.8564447	71852.965	60
1 1394.512	9.1444533	8961	10.8555468	71704.556	59
2 1397.492	9.1453493	8942	10.8546507	71556.764	58
3 1400.372	9.1462433	8923	10.8537565	71409.587	57
4 1403.252	9.1471358	8904	10.8528642	71263.019	56
5 1406.132	9.1480262	8886	10.8519738	71117.058	55
6 1409.012	9.1489148	8867	10.8510852	70971.700	54
7 1411.892	9.1498015	8849	10.8501985	70826.941	53
8 1414.772	9.1506864	8830	10.8493136	70682.777	52
9 1417.651	9.1515694	8813	10.8484305	70539.205	51
10 1420.531	9.1524507	8794	10.8475493	70396.220	50
11 1423.410	9.1533301	8775	10.8466699	70253.820	49
12 1426.289	9.1542076	8758	10.8457924	70112.001	48
13 1429.168	9.1550834	8740	10.8449166	69970.760	47
14 1432.047	9.1559574	8722	10.8440426	69830.092	46
15 1434.926	9.1568296	8704	10.8431704	69689.954	45
16 1437.805	9.1577000	8686	10.8423000	69550.464	44
17 1440.684	9.1585684	8668	10.8414314	69411.496	43
18 1443.562	9.1594364	8651	10.8405646	69273.089	42
19 1446.440	9.1603005	8634	10.8396995	69135.239	41
20 1449.319	9.1611639	8615	10.8388361	68997.942	40
21 1452.197	9.1620254	8599	10.8379746	68861.195	39
22 1455.075	9.1628853	8581	10.8371147	68724.995	38
23 1457.953	9.1637433	8564	10.8362566	68589.338	37
24 1460.830	9.1645998	8546	10.8354002	68454.222	36
25 1463.708	9.1654544	8528	10.8345456	68319.642	35
26 1466.585	9.1663074	8512	10.8336926	68185.597	34
27 1469.463	9.1671586	8495	10.8328414	68052.082	33
28 1472.340	9.1680081	8478	10.8319919	67919.095	32
29 1475.217	9.1688559	8462	10.8311441	67786.632	31
30 1478.094	9.1697021	8444	10.8302979	67654.691	30
31 1480.971	9.1705465	8428	10.8294534	67523.268	29
32 1483.848	9.1713893	8412	10.8286107	67392.360	28
33 1486.724	9.1722305	8394	10.8277695	67261.965	27
34 1489.601	9.1730699	8378	10.8269301	67132.079	26
35 1492.477	9.1739077	8362	10.8260923	67002.699	25
36 1495.353	9.1747439	8345	10.8252561	66873.822	24
37 1498.230	9.1755784	8328	10.8244216	66745.446	23
38 1501.106	9.1764112	8313	10.8235888	66617.568	22
39 1503.981	9.1772425	8296	10.8227575	66490.184	21
40 1506.857	9.1780721	8280	10.8219279	66363.293	20
41 1509.733	9.1789001	8264	10.8210999	66236.890	19
42 1512.608	9.1797265	8247	10.8202735	66110.975	18
43 1515.484	9.1805512	8232	10.8194488	65985.540	17
44 1518.359	9.1813744	8216	10.8186256	65860.587	16
45 1521.234	9.1821960	8200	10.8178040	65736.112	15
46 1524.109	9.1830160	8184	10.8169840	65612.113	14
47 1526.984	9.1838344	8168	10.8161656	65488.586	13
48 1529.858	9.1846512	8153	10.8153488	65365.528	12
49 1532.733	9.1854665	8137	10.8145335	65242.938	11
50 1535.607	9.1862802	8121	10.8137198	65120.812	10
51 1538.482	9.1870923	8106	10.8129077	64999.148	9
52 1541.356	9.1879029	8091	10.8120971	64877.944	8
53 1544.230	9.1887120	8075	10.8112880	64757.195	7
54 1547.104	9.1895195	8059	10.8104805	64636.901	6
55 1549.978	9.1903254	8043	10.8096746	64517.059	5
56 1552.851	9.1911299	8029	10.8088701	64397.666	4
57 1555.725	9.1919328	8014	10.8080672	64278.719	3
58 1558.598	9.1927342	7999	10.8072658	64160.216	2
59 1561.472	9.1935341	7983	10.8064659	64042.154	1
60 1564.345	9.1943324		10.8056676	63924.532	0

Dif. L. Sec. N. Sec. 18

N. Tan.	L. Tan.	Dit.			
0 1405.408	9.1478025	9157			
1 1408.374	9.1487181	9139			
2 1411.341	9.1496321	9120			
3 1414.308	9.1505441	9102			
4 1417.275	9.1514543	9084			
5 1420.243	9.1523627	9065			
6 1423.211	9.1532692	9047			
7 1426.179	9.1541739	9030			
8 1429.147	9.1550769	9011			
9 1432.115	9.1559780	8993			
10 1435.084	9.1568773	8975			
11 1438.053	9.1577748	8958			
12 1441.022	9.1586706	8940			
13 1443.991	9.1595646	8923			
14 1446.961	9.1604569	8904			
15 1449.931	9.1613473	8888			
16 1452.901	9.1622361	8870			
17 1455.871	9.1631231	8852			
18 1458.842	9.1640083	8836			
19 1461.813	9.1648919	8818			
20 1464.784	9.1657737	8801			
21 1467.755	9.1666538	8784			
22 1470.727	9.1675322	8767			
23 1473.699	9.1684099	8750			
24 1476.671	9.1692839	8733			
25 1479.644	9.1701552	8717			
26 1482.617	9.1710258	8700			
27 1485.590	9.1718959	8683			
28 1488.563	9.1727673	8666			
29 1491.536	9.1736338	8650			
30 1494.510	9.1744988	8634			
31 1497.484	9.1753622	8617			
32 1500.458	9.1762239	8601			
33 1503.433	9.1770840	8585			
34 1506.408	9.1779425	8568			
35 1509.383	9.1787993	8553			
36 1512.358	9.1796546	8536			
37 1515.333	9.1805082	8520			
38 1518.309	9.1813602	8504			
39 1521.285	9.1822106	8489			
40 1524.261	9.1830598	8473			
41 1527.238	9.1839068	8457			
42 1530.215	9.1847525	8441			
43 1533.192	9.1855966	8426			
44 1536.169	9.1864392	8410			
45 1539.147	9.1872802	8394			
46 1542.125	9.1881196	8379			
47 1545.103	9.1889575	8364			
48 1548.082	9.1897939	8348			
49 1551.061	9.1906287	8334			
50 1554.040	9.1914621	8318			
51 1557.019	9.1922939	8302			
52 1559.998	9.1931241	8288			
53 1562.978	9.1939529	8273			
54 1565.958	9.1947802	8257			
55 1568.938	9.1956059	8243			
56 1571.919	9.1964302	8228			
57 1574.900	9.1972534	8213			
58 1577.881	9.1980743	8198			
59 1580.862	9.1988941	8184			
60 1583.844	9.1997125				

Dif.

			8	N. Sec.	L. Sec.	D.			
10.8521975	71153.697	60	0	10098.276	10.0042472	178	9.9957528	9902.680	60
10.8512818	71003.826	59	1	10098.688	10.0042650	178	9.9957350	9902.275	59
10.8503679	70854.573	58	2	10099.103	10.0042828	179	9.9957172	9901.869	58
10.8494559	70705.934	57	3	10099.518	10.0043007	179	9.9956993	9901.462	57
10.8485457	70557.905	56	4	10099.934	10.0043185	178	9.9956815	9901.054	56
10.8476373	70410.482	55	5	10100.351	10.0043365	180	9.9956635	9900.645	55
10.8467308	70263.662	54	6	10100.769	10.0043544	179	9.9956456	9900.236	54
10.8458261	70117.441	53	7	10101.188	10.0043724	180	9.9956276	9899.826	53
10.8449231	69971.806	52	8	10101.607	10.0043905	180	9.9956095	9899.415	52
10.8440220	69826.781	51	9	10102.027	10.0044085	180	9.9955915	9899.003	51
10.8431227	69682.335	50	10	10102.448	10.0044266	181	9.9955734	9898.590	50
10.8422252	69538.473	49	11	10102.870	10.0044448	182	9.9955552	9898.176	49
10.8413294	69395.192	48	12	10103.293	10.0044630	182	9.9955370	9897.762	48
10.8404354	69252.489	47	13	10103.717	10.0044812	182	9.9955188	9897.347	47
10.8395431	69110.359	46	14	10104.142	10.0044995	183	9.9955005	9896.931	46
10.8386527	68968.799	45	15	10104.568	10.0045178	183	9.9954822	9896.514	45
10.8377639	68827.807	44	16	10104.995	10.0045361	183	9.9954639	9896.096	44
10.8368769	68687.378	43	17	10105.423	10.0045545	184	9.9954455	9895.677	43
10.8359917	68547.508	42	18	10105.851	10.0045729	184	9.9954271	9895.257	42
10.8351081	68408.196	41	19	10106.280	10.0045913	184	9.9954087	9894.837	41
10.8342263	68269.437	40	20	10106.710	10.0046098	185	9.9953902	9894.416	40
10.8333462	68131.227	39	21	10107.141	10.0046283	185	9.9953717	9893.994	39
10.8324678	67993.565	38	22	10107.573	10.0046466	186	9.9953531	9893.571	38
10.8315911	67856.446	37	23	10108.006	10.0046650	186	9.9953345	9893.147	37
10.8307168	67719.867	36	24	10108.440	10.0046834	186	9.9953159	9892.723	36
10.8298428	67583.826	35	25	10108.875	10.0047028	187	9.9952972	9892.298	35
10.8289711	67448.319	34	26	10109.311	10.0047215	187	9.9952785	9891.872	34
10.8281011	67313.341	33	27	10109.747	10.0047403	188	9.9952597	9891.445	33
10.8272328	67178.891	32	28	10110.184	10.0047591	188	9.9952409	9891.017	32
10.8263662	67044.966	31	29	10110.622	10.0047779	188	9.9952221	9890.588	31
10.8255012	66911.562	30	30	10111.061	10.0047967	189	9.9952033	9890.158	30
10.8246378	66778.677	29	31	10111.501	10.0048156	189	9.9951844	9889.728	29
10.8237761	66646.307	28	32	10111.942	10.0048346	190	9.9951654	9889.297	28
10.8229160	66514.449	27	33	10112.384	10.0048536	190	9.9951464	9888.865	27
10.8220575	66383.100	26	34	10112.827	10.0048726	190	9.9951274	9888.432	26
10.8212007	66252.258	25	35	10113.271	10.0048916	191	9.9951084	9887.998	25
10.8203454	66121.919	24	36	10113.715	10.0049107	191	9.9950893	9887.563	24
10.8194918	65992.080	23	37	10114.160	10.0049298	191	9.9950702	9887.128	23
10.8186398	65862.739	22	38	10114.606	10.0049490	192	9.9950510	9886.692	22
10.8177894	65733.892	21	39	10115.053	10.0049682	192	9.9950318	9886.255	21
10.8169405	65605.538	20	40	10115.501	10.0049874	192	9.9950126	9885.817	20
10.8160932	65477.672	19	41	10115.950	10.0050067	193	9.9949933	9885.378	19
10.8152475	65350.293	18	42	10116.400	10.0050260	193	9.9949740	9884.938	18
10.8144034	65223.396	17	43	10116.851	10.0050454	194	9.9949546	9884.498	17
10.8135608	65096.981	16	44	10117.303	10.0050648	194	9.9949352	9884.057	16
10.8127198	64971.043	15	45	10117.756	10.0050842	194	9.9949158	9883.615	15
10.8118804	64845.581	14	46	10118.209	10.0051036	194	9.9948964	9883.172	14
10.8110435	64720.591	13	47	10118.663	10.0051231	195	9.9948769	9882.728	13
10.8102061	64596.070	12	48	10119.118	10.0051427	196	9.9948573	9882.283	12
10.8093713	64472.017	11	49	10119.574	10.0051623	196	9.9948377	9881.838	11
10.8085379	64348.428	10	50	10120.031	10.0051819	196	9.9948181	9881.392	10
10.8077061	64225.301	9	51	10120.489	10.0052015	197	9.9947985	9880.945	9
10.8068759	64102.633	8	52	10120.948	10.0052212	197	9.9947788	9880.497	8
10.8060471	63980.422	7	53	10121.408	10.0052409	198	9.9947591	9880.048	7
10.8052198	63858.665	6	54	10121.869	10.0052607	198	9.9947393	9879.598	6
10.8043941	63737.359	5	55	10122.331	10.0052805	198	9.9947195	9879.148	5
10.8035698	63616.502	4	56	10122.793	10.0053003	199	9.9946997	9878.697	4
10.8027470	63496.092	3	57	10123.256	10.0053201	199	9.9946799	9878.245	3
10.8019257	63376.126	2	58	10123.720	10.0053401	200	9.9946599	9877.792	2
10.8011059	63256.601	1	59	10124.185	10.0053601	200	9.9946399	9877.338	1
10.8002875	63137.515	0	60	10124.651	10.0053801	200	9.9946199	9876.882	0
L. Tan.	N. Tan.	181					D. L. Sin.	N. Sin.	181

9	N. Sin.	L. Sin.	Dist.			9	N. Tan.	L. Tan.	Dist.
0	1564.245	9.1943224	10.8056676	63924.532	60	0	1583.844	9.1997125	8169
1	1567.218	9.1951223	10.8048707	63807.347	59	1	1586.826	9.2005294	8155
2	1570.091	9.1959247	10.8040753	63690.595	58	2	1589.808	9.2013449	8139
3	1572.963	9.1967186	10.8032814	63574.276	57	3	1592.791	9.2021588	8126
4	1575.836	9.1975110	10.8024890	63458.386	56	4	1595.774	9.2029714	8111
5	1578.708	9.1983019	10.8016981	63342.923	55	5	1598.757	9.2037825	8097
6	1581.581	9.1990913	10.8009087	63227.884	54	6	1601.740	9.2045922	8082
7	1584.453	9.1998793	10.8001207	63113.269	53	7	1604.724	9.2054004	8068
8	1587.325	9.2006658	10.7993342	62999.073	52	8	1607.708	9.2062072	8054
9	1590.197	9.2014509	10.7985491	62885.295	51	9	1610.692	9.2070126	8039
10	1593.069	9.2022345	10.7977655	62771.933	50	10	1613.677	9.2078165	8026
11	1595.940	9.2030167	10.7969833	62658.984	49	11	1616.662	9.2086191	8012
12	1598.812	9.2037974	10.7962026	62546.446	48	12	1619.647	9.2094203	7997
13	1601.683	9.2045766	10.7954234	62434.316	47	13	1622.632	9.2102200	7984
14	1604.555	9.2053545	10.7946451	62322.594	46	14	1625.617	9.2110184	7969
15	1607.426	9.2061309	10.7938691	62211.275	45	15	1628.603	9.2118153	7956
16	1610.297	9.2069059	10.7930941	62100.359	44	16	1631.589	9.2126109	7942
17	1613.167	9.2076795	10.7923205	61989.843	43	17	1634.576	9.2134051	7929
18	1616.038	9.2084516	10.7915484	61879.725	42	18	1637.563	9.2141980	7914
19	1618.909	9.2092224	10.7907776	61770.003	41	19	1640.550	9.2149894	7901
20	1621.779	9.2099917	10.7900083	61660.674	40	20	1643.537	9.2157795	7888
21	1624.650	9.2107597	10.7892403	61551.736	39	21	1646.525	9.2165683	7874
22	1627.520	9.2115263	10.7884737	61443.189	38	22	1649.513	9.2173556	7861
23	1630.390	9.2122914	10.7877086	61335.028	37	23	1652.501	9.2181417	7847
24	1633.260	9.2130552	10.7869448	61227.252	36	24	1655.489	9.2189264	7833
25	1636.129	9.2138176	10.7861824	61119.861	35	25	1658.478	9.2197097	7820
26	1638.999	9.2145787	10.7854213	61012.850	34	26	1661.467	9.2204917	7807
27	1641.868	9.2153384	10.7846616	60906.219	33	27	1664.456	9.2212724	7794
28	1644.738	9.2160965	10.7839033	60799.964	32	28	1667.446	9.2220518	7780
29	1647.607	9.2168536	10.7831464	60694.085	31	29	1670.436	9.2228298	7767
30	1650.476	9.2176092	10.7823908	60588.580	30	30	1673.426	9.2236055	7754
31	1653.345	9.2183635	10.7816365	60483.445	29	31	1676.416	9.2243819	7742
32	1656.214	9.2191164	10.7808836	60378.680	28	32	1679.407	9.2251561	7728
33	1659.082	9.2198680	10.7801320	60274.282	27	33	1682.398	9.2259289	7715
34	1661.951	9.2206182	10.7793818	60170.250	26	34	1685.389	9.2267004	7702
35	1664.819	9.2213671	10.7786329	60066.581	25	35	1688.381	9.2274706	7689
36	1667.687	9.2221147	10.7778853	59963.274	24	36	1691.373	9.2282395	7676
37	1670.555	9.2228609	10.7771391	59860.326	23	37	1694.365	9.2290071	7664
38	1673.423	9.2236059	10.7763941	59757.737	22	38	1697.358	9.2297735	7651
39	1676.291	9.2243495	10.7756505	59655.504	21	39	1700.351	9.2305386	7638
40	1679.159	9.2250918	10.7749082	59553.625	20	40	1703.344	9.2313024	7626
41	1682.026	9.2258328	10.7741672	59452.098	19	41	1706.337	9.2320650	7612
42	1684.894	9.2265725	10.7734275	59350.922	18	42	1709.331	9.2328262	7601
43	1687.761	9.2273110	10.7726890	59250.095	17	43	1712.325	9.2335862	7588
44	1690.628	9.2280481	10.7719519	59149.614	16	44	1715.319	9.2343451	7575
45	1693.495	9.2287839	10.7712161	59049.479	15	45	1718.314	9.2351026	7563
46	1696.362	9.2295185	10.7704815	58949.688	14	46	1721.309	9.2358589	7550
47	1699.229	9.2302518	10.7697482	58850.238	13	47	1724.304	9.2366139	7539
48	1702.095	9.2309838	10.7690162	58751.128	12	48	1727.299	9.2373678	7528
49	1704.961	9.2317145	10.7682855	58652.356	11	49	1730.296	9.2381203	7514
50	1707.828	9.2324440	10.7675560	58553.920	10	50	1733.292	9.2388717	7501
51	1710.694	9.2331722	10.7668278	58455.820	9	51	1736.288	9.2396218	7490
52	1713.560	9.2338999	10.7661008	58358.053	8	52	1739.285	9.2403708	7477
53	1716.425	9.2346249	10.7653751	58260.617	7	53	1742.282	9.2411185	7465
54	1719.291	9.2353494	10.7646506	58163.510	6	54	1745.279	9.2418650	7453
55	1722.156	9.2360726	10.7639274	58066.732	5	55	1748.277	9.2426103	7440
56	1725.022	9.2367946	10.7632054	57970.280	4	56	1751.275	9.2433543	7429
57	1727.887	9.2375153	10.7624847	57874.153	3	57	1754.273	9.2440972	7417
58	1730.752	9.2382349	10.7617651	57778.350	2	58	1757.272	9.2448389	7405
59	1733.617	9.2389532	10.7610468	57682.867	1	59	1760.271	9.2455794	7394
60	1736.482	9.2396702	10.7603298	57587.705	0	60	1763.270	9.2463188	
Dist.				L. Sec.	N. Sec.	180			

			9 N. Sec.		L. Sec.		D	
10.8002875	63137.515	60	0	10124.651	10.0053801	201	9.9945199	9876.885
10.7994706	63018.866	59	1	10125.118	10.0054001	201	9.9945999	9876.428
10.7986551	62900.651	58	2	10125.586	10.0054202	202	9.9945798	9875.972
10.7978412	62782.568	57	3	10126.055	10.0054403	201	9.9945597	9875.515
10.7970286	62665.514	56	4	10126.525	10.0054604	202	9.9945396	9875.057
10.7962175	62548.588	55	5	10126.995	10.0054805	202	9.9945194	9874.598
10.7954078	62432.086	54	6	10127.467	10.0055008	202	9.9944992	9874.138
10.7945996	62316.007	53	7	10127.939	10.0055211	203	9.9944789	9873.677
10.7937928	62202.347	52	8	10128.412	10.0055415	202	9.9944587	9873.216
10.7929874	62085.105	51	9	10128.886	10.0055617	204	9.9944383	9872.754
10.7921835	61970.279	50	10	10129.361	10.0055820	203	9.9944180	9872.291
10.7913809	61855.867	49	11	10129.837	10.0056025	205	9.9943975	9871.827
10.7905797	61741.865	48	12	10130.314	10.0056229	204	9.9943771	9871.362
10.7897800	61628.272	47	13	10130.792	10.0056434	205	9.9943566	9870.897
10.7889816	61515.085	46	14	10131.271	10.0056639	205	9.9943361	9870.431
10.7881847	61402.303	45	15	10131.751	10.0056844	205	9.9943156	9869.964
10.7873891	61289.923	44	16	10132.231	10.0057050	207	9.9942950	9869.496
10.7865949	61177.943	43	17	10132.712	10.0057257	206	9.9942743	9869.027
10.7858020	61066.260	42	18	10133.194	10.0057463	207	9.9942537	9868.557
10.7850106	60955.174	41	19	10133.677	10.0057670	207	9.9942330	9868.086
10.7842205	60844.381	40	20	10134.161	10.0057878	208	9.9942122	9867.615
10.7834317	60733.979	39	21	10134.646	10.0058086	208	9.9941914	9867.143
10.7826444	60623.967	38	22	10135.132	10.0058295	208	9.9941707	9866.670
10.7818583	60514.343	37	23	10135.619	10.0058502	209	9.9941498	9866.197
10.7810736	60405.103	36	24	10136.107	10.0058711	209	9.9941289	9865.721
10.7802903	60296.247	35	25	10136.595	10.0058921	210	9.9941079	9865.245
10.7795033	60187.772	34	26	10137.084	10.0059130	209	9.9940870	9864.770
10.7787276	60079.676	33	27	10137.574	10.0059341	210	9.9940659	9864.293
10.7779522	59971.957	32	28	10138.065	10.0059551	211	9.9940449	9863.815
10.7771702	59864.614	31	29	10138.557	10.0059762	211	9.9940238	9863.336
10.7763935	59757.644	30	30	10139.050	10.0059973	211	9.9940027	9862.856
10.7756181	59651.045	29	31	10139.544	10.0060185	212	9.9939815	9862.375
10.7748439	59544.815	28	32	10140.039	10.0060397	212	9.9939603	9861.894
10.7740711	59438.952	27	33	10140.535	10.0060609	212	9.9939391	9861.412
10.7732996	59333.455	26	34	10141.032	10.0060823	213	9.9939178	9860.929
10.7725244	59228.322	25	35	10141.530	10.0061035	213	9.9938965	9860.445
10.7717605	59123.550	24	36	10142.029	10.0061248	213	9.9938752	9859.960
10.7709929	59019.138	23	37	10142.529	10.0061462	214	9.9938535	9859.474
10.7702265	58915.084	22	38	10143.029	10.0061676	214	9.9938324	9858.988
10.7694614	58811.386	21	39	10143.530	10.0061891	215	9.9938109	9858.501
10.7686976	58708.042	20	40	10144.032	10.0062106	215	9.9937894	9858.013
10.7679350	58605.051	19	41	10144.535	10.0062321	215	9.9937679	9857.524
10.7671738	58502.410	18	42	10145.039	10.0062537	216	9.9937463	9857.034
10.7664137	58400.117	17	43	10145.544	10.0062753	217	9.9937247	9856.544
10.7656549	58298.172	16	44	10146.050	10.0062970	217	9.9937030	9856.053
10.7648974	58196.572	15	45	10146.557	10.0063187	217	9.9936813	9855.561
10.7641411	58095.315	14	46	10147.064	10.0063404	218	9.9936596	9855.068
10.7633861	57994.400	13	47	10147.572	10.0063622	218	9.9936378	9854.574
10.7626322	57893.825	12	48	10148.081	10.0063840	218	9.9936160	9854.079
10.7618797	57793.588	11	49	10148.591	10.0064058	219	9.9935942	9853.583
10.7611283	57693.688	10	50	10149.102	10.0064277	219	9.9935723	9853.087
10.7603782	57594.122	9	51	10149.614	10.0064496	219	9.9935504	9852.590
10.7596292	57494.889	8	52	10150.127	10.0064715	220	9.9935286	9852.092
10.7588815	57395.983	7	53	10150.641	10.0064935	221	9.9935065	9851.593
10.7581350	57297.416	6	54	10151.156	10.0065156	221	9.9934844	9851.092
10.7573897	57199.173	5	55	10151.672	10.0065376	222	9.9934624	9850.592
10.7566457	57102.266	4	56	10152.189	10.0065597	222	9.9934403	9850.091
10.7559028	57005.623	3	57	10152.707	10.0065819	222	9.9934181	9849.589
10.7551611	56909.342	2	58	10153.226	10.0066041	222	9.9933959	9849.086
10.7544206	56809.446	1	59	10153.746	10.0066263	223	9.9933737	9848.582
10.7536812	56712.818	0	60	10154.267	10.0066485	223	9.9933515	9848.077
L. Tan.	N. Tan.	80					L. Sin.	N. Sin.

10	N. Sin.	L. Sin.	Dit.				10	N. Tan.	L. Tan.	Dit.
0	1736.482	9.2396703	7155	10.7603298	57587.705	60	0	1763.270	9.2463188	7381
1	1739.346	9.2403861	7145	10.7596139	57492.861	59	1	1766.269	9.2470565	7370
2	1742.211	9.2411007	7134	10.7588993	57398.333	58	2	1769.269	9.2477939	7358
3	1745.075	9.2418141	7123	10.7581559	57304.121	57	3	1772.269	9.2485297	7346
4	1747.939	9.2425266	7110	10.7574736	57210.223	56	4	1775.269	9.2492662	7335
5	1750.803	9.2432374	7098	10.7567626	57116.636	55	5	1778.270	9.2499978	7323
6	1753.667	9.2439472	7086	10.7560528	57023.360	54	6	1781.271	9.2507301	7311
7	1756.531	9.2446558	7074	10.7553442	56930.393	53	7	1784.272	9.2514612	7300
8	1759.395	9.2453632	7063	10.7546368	56837.734	52	8	1787.274	9.2521912	7288
9	1762.258	9.2460695	7051	10.7539305	56745.380	51	9	1790.276	9.2529200	7277
10	1765.121	9.2467746	7038	10.7532254	56653.331	50	10	1793.278	9.2536477	7266
11	1767.984	9.2474784	7027	10.7525218	56561.584	49	11	1796.281	9.2543743	7254
12	1770.847	9.2481811	7016	10.7518189	56470.140	48	12	1799.284	9.2550997	7243
13	1773.710	9.2488827	7003	10.7511173	56378.995	47	13	1802.287	9.2558240	7232
14	1776.573	9.2495830	6992	10.7504170	56288.148	46	14	1805.291	9.2565472	7220
15	1779.435	9.2502822	6981	10.7497178	56197.599	45	15	1808.295	9.2572692	7209
16	1782.298	9.2509803	6969	10.7490197	56107.345	44	16	1811.299	9.2579901	7198
17	1785.160	9.2516772	6957	10.7483228	56017.386	43	17	1814.303	9.2587099	7186
18	1788.022	9.2523729	6946	10.7476271	55927.719	42	18	1817.308	9.2594285	7176
19	1790.884	9.2530675	6934	10.7469325	55838.343	41	19	1820.312	9.2601461	7164
20	1793.746	9.2537609	6923	10.7462391	55749.258	40	20	1823.318	9.2608625	7154
21	1796.607	9.2544532	6912	10.7455468	55660.460	39	21	1826.324	9.2615779	7143
22	1799.469	9.2551444	6900	10.7448556	55571.950	38	22	1829.330	9.2622921	7132
23	1802.330	9.2558344	6889	10.7441656	55483.726	37	23	1832.336	9.2630053	7120
24	1805.191	9.2565233	6877	10.7434767	55395.786	36	24	1835.343	9.2637173	7110
25	1808.052	9.2572110	6866	10.7427890	55308.129	35	25	1838.350	9.2644283	7099
26	1810.913	9.2578977	6855	10.7421023	55220.754	34	26	1841.357	9.2651382	7088
27	1813.774	9.2585832	6844	10.7414168	55133.659	33	27	1844.365	9.2658470	7077
28	1816.635	9.2592676	6833	10.7407324	55046.843	32	28	1847.373	9.2665547	7066
29	1819.495	9.2599509	6821	10.7400491	54960.305	31	29	1850.381	9.2672613	7056
30	1822.355	9.2606330	6811	10.7393670	54874.043	30	30	1853.390	9.2679669	7045
31	1825.215	9.2613141	6800	10.7386859	54788.055	29	31	1856.399	9.2686714	7035
32	1828.075	9.2619941	6788	10.7380059	54702.342	28	32	1859.408	9.2693749	7023
33	1830.935	9.2626729	6777	10.7373271	54616.901	27	33	1862.418	9.2700772	7014
34	1833.795	9.2633507	6766	10.7366493	54531.731	26	34	1865.428	9.2707786	7003
35	1836.654	9.2640274	6756	10.7359729	54446.831	25	35	1868.438	9.2714788	6992
36	1839.513	9.2647030	6745	10.7352970	54362.199	24	36	1871.449	9.2721780	6982
37	1842.373	9.2653775	6734	10.7346225	54277.835	23	37	1874.460	9.2728762	6971
38	1845.232	9.2660509	6723	10.7339491	54193.737	22	38	1877.471	9.2735733	6961
39	1848.091	9.2667222	7113	10.7332768	54109.903	21	39	1880.483	9.2742694	6950
40	1850.949	9.2673945	7002	10.7326055	54026.333	20	40	1883.495	9.2749644	6940
41	1853.808	9.2680667	6691	10.7319353	53943.026	19	41	1886.507	9.2756584	6930
42	1856.666	9.2687338	6681	10.7312662	53859.979	18	42	1889.520	9.2763514	6920
43	1859.524	9.2694019	6670	10.7305981	53777.192	17	43	1892.533	9.2770434	6909
44	1862.382	9.2700689	6659	10.7299311	53694.664	16	44	1895.546	9.2777343	6899
45	1865.240	9.2707348	6649	10.7292652	53612.393	15	45	1898.559	9.2784242	6889
46	1868.098	9.2713997	6638	10.7286003	53530.379	14	46	1901.573	9.2791131	6878
47	1870.956	9.2720635	6628	10.7279365	53448.520	13	47	1904.587	9.2798009	6869
48	1873.813	9.2727263	6617	10.7272737	53367.114	12	48	1907.602	9.2804878	6858
49	1876.670	9.2733880	6607	10.7266120	53285.861	11	49	1910.617	9.2811736	6848
50	1879.527	9.2740487	6596	10.7259513	53204.860	10	50	1913.632	9.2818585	6838
51	1882.384	9.2747093	6586	10.7252917	53124.109	9	51	1916.648	9.2825423	6828
52	1885.241	9.2753669	6576	10.7246331	53043.608	8	52	1919.664	9.2832251	6819
53	1888.098	9.2760245	6566	10.7239755	52963.354	7	53	1922.680	9.2839070	6809
54	1890.954	9.2766811	6555	10.7233189	52883.347	6	54	1925.696	9.2845878	6799
55	1893.811	9.2773366	6545	10.7226634	52803.587	5	55	1928.713	9.2852677	6789
56	1896.667	9.2779911	6534	10.7220089	52724.077	4	56	1931.730	9.2859466	6779
57	1899.523	9.2786445	6525	10.7213555	52644.798	3	57	1934.748	9.2866245	6769
58	1902.379	9.2792970	6514	10.7207030	52565.768	2	58	1937.766	9.2873014	6759
59	1905.234	9.2799484	6504	10.7200516	52486.979	1	59	1940.784	9.2879777	6750
60	1908.090	9.2805988		10.7194012	52408.431	0	60	1943.803	9.2886523	
Diff				L. Sec.	N. Sec.	179				

			10	N. Sec.	L. Sec.	D			
10.7536812	56712.818	60	0	10154.267	10.0066485	223	9.9933515	9848.077	60
10.7529431	56616.509	59	1	10154.788	10.0066708	223	9.9933292	9847.571	59
10.7522061	56520.516	58	2	10155.310	10.0066932	223	9.9933068	9847.065	58
10.7514703	56424.338	57	3	10155.833	10.0067155	223	9.9932845	9846.558	57
10.7507357	56329.474	56	4	10156.357	10.0067379	223	9.9932621	9846.050	56
10.7500022	56234.421	55	5	10156.882	10.0067604	223	9.9932396	9845.541	55
10.7492699	56139.680	54	6	10157.408	10.0067829	223	9.9932171	9845.031	54
10.7485388	56045.247	53	7	10157.935	10.0068054	223	9.9931946	9844.521	53
10.7478088	55951.121	52	8	10158.463	10.0068280	223	9.9931720	9844.010	52
10.7470800	55857.302	51	9	10158.992	10.0068506	223	9.9931494	9843.498	51
10.7463523	55763.786	50	10	10159.521	10.0068732	223	9.9931268	9842.985	50
10.7456257	55670.574	49	11	10160.051	10.0068959	223	9.9931041	9842.471	49
10.7449003	55577.663	48	12	10160.582	10.0069186	223	9.9930814	9841.955	48
10.7441760	55485.052	47	13	10161.114	10.0069413	223	9.9930587	9841.440	47
10.7434528	55392.740	46	14	10161.647	10.0069641	223	9.9930359	9840.924	46
10.7427308	55300.724	45	15	10162.181	10.0069869	223	9.9930131	9840.407	45
10.7420099	55209.005	44	16	10162.716	10.0070099	223	9.9929902	9839.889	44
10.7412901	55117.579	43	17	10163.252	10.0070327	223	9.9929673	9839.370	43
10.7405715	55026.446	42	18	10163.789	10.0070556	223	9.9929444	9838.850	42
10.7398539	54935.604	41	19	10164.327	10.0070786	230	9.9929214	9838.329	41
10.7391375	54845.052	40	20	10164.866	10.0071016	230	9.9928984	9837.808	40
10.7384221	54754.788	39	21	10165.406	10.0071247	231	9.9928753	9837.285	39
10.7377079	54664.812	38	22	10165.945	10.0071478	231	9.9928523	9836.763	38
10.7369947	54575.121	37	23	10166.487	10.0071709	231	9.9928291	9836.239	37
10.7362827	54485.715	36	24	10167.029	10.0071941	232	9.9928059	9835.714	36
10.7355717	54396.593	35	25	10167.572	10.0072173	232	9.9927827	9835.189	35
10.7348618	54307.750	34	26	10168.116	10.0072405	233	9.9927595	9834.663	34
10.7341530	54219.188	33	27	10168.661	10.0072638	233	9.9927362	9834.136	33
10.7334453	54130.906	32	28	10169.207	10.0072871	233	9.9927129	9833.608	32
10.7327387	54042.901	31	29	10169.754	10.0073104	234	9.9926895	9833.079	31
10.7320331	53955.172	30	30	10170.302	10.0073339	234	9.9926661	9832.549	30
10.7313286	53867.718	29	31	10170.851	10.0073573	235	9.9926427	9832.018	29
10.7306251	53780.538	28	32	10171.401	10.0073808	235	9.9926192	9831.487	28
10.7299228	53693.630	27	33	10171.952	10.0074043	235	9.9925957	9830.955	27
10.7292214	53606.993	26	34	10172.504	10.0074278	235	9.9925722	9830.422	26
10.7285212	53520.626	25	35	10173.056	10.0074514	236	9.9925486	9829.888	25
10.7278220	53434.529	24	36	10173.609	10.0074750	236	9.9925250	9829.353	24
10.7271238	53348.696	23	37	10174.163	10.0074987	237	9.9925013	9828.817	23
10.7264267	53263.131	22	38	10174.718	10.0075224	237	9.9924776	9828.281	22
10.7257306	53177.830	21	39	10175.274	10.0075461	237	9.9924539	9827.744	21
10.7250356	53092.793	20	40	10175.831	10.0075699	238	9.9924301	9827.206	20
10.7243416	53008.018	19	41	10176.389	10.0075937	238	9.9924063	9826.667	19
10.7236486	52923.505	18	42	10176.948	10.0076176	239	9.9923824	9826.127	18
10.7229566	52839.251	17	43	10177.508	10.0076415	239	9.9923585	9825.587	17
10.7222657	52755.255	16	44	10178.069	10.0076654	240	9.9923346	9825.046	16
10.7215758	52671.512	15	45	10178.631	10.0076894	240	9.9923105	9824.504	15
10.7208869	52588.035	14	46	10179.194	10.0077134	240	9.9922866	9823.961	14
10.7201991	52504.809	13	47	10179.758	10.0077374	241	9.9922626	9823.417	13
10.7195122	52421.836	12	48	10180.322	10.0077615	241	9.9922385	9822.872	12
10.7188264	52339.116	11	49	10180.887	10.0077856	241	9.9922144	9822.327	11
10.7181415	52256.647	10	50	10181.453	10.0078098	242	9.9921902	9821.781	10
10.7174577	52174.428	9	51	10182.020	10.0078340	242	9.9921660	9821.234	9
10.7167749	52092.459	8	52	10182.588	10.0078582	242	9.9921418	9820.686	8
10.7160930	52010.738	7	53	10183.157	10.0078825	242	9.9921175	9820.137	7
10.7154122	51929.264	6	54	10183.727	10.0079068	242	9.9920932	9819.587	6
10.7147323	51848.035	5	55	10184.298	10.0079311	243	9.9920689	9819.036	5
10.7140534	51767.051	4	56	10184.870	10.0079555	244	9.9920445	9818.485	4
10.7133755	51686.311	3	57	10185.443	10.0079799	245	9.9920201	9817.933	3
10.7126986	51605.813	2	58	10186.017	10.0080044	245	9.9919956	9817.380	2
10.7120227	51525.557	1	59	10186.592	10.0080289	245	9.9919711	9816.826	1
10.7113477	51445.540	0	60	10187.168	10.0080534	245	9.9919466	9816.271	0
L. Tan.	N. Tan.	70					D. L. Sin.	N. Sin.	70

N. Sin.	L. Sin.	Diff.	N. Tan.	L. Tan.	Diff.
1	1908.200	9.2805983	10.7194012	52408.431	60
2	1910.945	9.2812483	10.7187517	52330.121	59
3	1913.400	9.2818767	10.7181033	52252.050	58
4	1916.655	9.2825441	10.7174559	52174.216	57
5	1919.110	9.2831905	10.7168095	52096.618	56
6	1922.375	9.2838350	10.7161641	52019.254	55
7	1925.220	9.2844803	10.7155197	51942.125	54
8	1928.074	9.2851237	10.7148763	51865.228	53
9	1930.928	9.2857661	10.7142339	51788.635	52
10	1933.782	9.2864076	10.7135924	51712.128	51
11	1936.636	9.2870480	10.7129520	51635.924	50
12	1939.490	9.2876877	10.7123125	51559.948	49
13	1942.344	9.2883266	10.7116840	51484.199	48
14	1945.197	9.2889636	10.7110364	51408.677	47
15	1948.050	9.2896001	10.7103999	51333.381	46
16	1950.903	9.2902355	10.7097643	51258.309	45
17	1953.756	9.2908708	10.7091296	51183.461	44
18	1956.609	9.2915060	10.7084960	51108.835	43
19	1959.461	9.2921327	10.7078633	51034.431	42
20	1962.314	9.2927688	10.7072315	50960.248	41
21	1965.166	9.2933999	10.7066007	50886.284	40
22	1968.018	9.2940291	10.7059709	50812.539	39
23	1970.870	9.2946580	10.7053420	50739.012	38
24	1973.722	9.2952859	10.7047141	50665.701	37
25	1976.573	9.2959129	10.7040871	50592.606	36
26	1979.425	9.2965390	10.7034610	50519.726	35
27	1982.276	9.2971641	10.7028359	50447.060	34
28	1985.127	9.2977883	10.7022117	50374.607	33
29	1987.978	9.2984116	10.7015884	50302.367	32
30	1990.829	9.2990339	10.7009661	50230.337	31
31	1993.679	9.2996553	10.7003447	50158.517	30
32	1996.530	9.3002758	10.6997242	50086.907	29
33	1999.380	9.3008953	10.6991040	50015.505	28
34	2002.230	9.3015140	10.6984860	49944.311	27
35	2005.080	9.3021317	10.6978683	49873.323	26
36	2007.930	9.3027485	10.6972515	49802.541	25
37	2010.777	9.3033644	10.6966357	49731.964	24
38	2013.629	9.3039794	10.6960206	49661.591	23
39	2016.478	9.3045934	10.6954066	49591.421	22
40	2019.327	9.3052066	10.6947934	49521.453	21
41	2022.176	9.3058189	10.6941811	49451.687	20
42	2025.024	9.3064303	10.6935697	49382.120	19
43	2027.873	9.3070407	10.6929593	49312.754	18
44	2030.721	9.3076503	10.6923497	49243.586	17
45	2033.569	9.3082590	10.6917410	49174.616	16
46	2036.417	9.3088668	10.6911332	49105.844	15
47	2039.265	9.3094737	10.6905263	49037.267	14
48	2042.113	9.3100788	10.6899202	48968.886	13
49	2044.961	9.3106849	10.6893151	48900.700	12
50	2047.808	9.3112892	10.6887108	48832.707	11
51	2050.655	9.3118926	10.6881074	48764.907	10
52	2053.502	9.3124951	10.6875049	48697.299	9
53	2056.349	9.3130968	10.6869032	48629.882	8
54	2059.195	9.3136976	10.6863024	48562.657	7
55	2062.042	9.3142975	10.6857025	48495.621	6
56	2064.888	9.3148965	10.6851035	48428.774	5
57	2067.734	9.3154947	10.6845053	48362.114	4
58	2070.580	9.3160921	10.6839079	48295.643	3
59	2073.426	9.3166885	10.6833115	48229.357	2
60	2076.271	9.3172841	10.6827159	48163.258	1
61	2079.117	9.3178789	10.6821211	48097.343	0
62	1943.803	9.2886123	10.7184012	52408.431	60
63	1946.812	9.2893263	10.7177517	52330.121	59
64	1949.845	9.2899993	10.7171033	52252.050	58
65	1952.861	9.2906713	10.7164559	52174.216	57
66	1955.881	9.2913424	10.7158095	52096.618	56
67	1958.901	9.2920126	10.7151641	52019.254	55
68	1961.912	9.2926817	10.7145197	51942.125	54
69	1964.943	9.2933500	10.7138763	51865.228	53
70	1967.964	9.2940172	10.7132339	51788.635	52
71	1970.986	9.2946836	10.7125924	51712.128	51
72	1974.008	9.2953489	10.7119520	51635.924	50
73	1977.030	9.2960130	10.7113125	51559.948	49
74	1980.053	9.2966769	10.7106840	51484.199	48
75	1983.076	9.2973395	10.7100364	51408.677	47
76	1986.100	9.2980011	10.7093999	51333.381	46
77	1989.124	9.2986618	10.7087643	51258.309	45
78	1992.148	9.2993216	10.7081296	51183.461	44
79	1995.172	9.2999804	10.7074960	51108.835	43
80	1998.197	9.3006383	10.7068633	51034.431	42
81	2001.222	9.3012954	10.7062315	50960.248	41
82	2004.248	9.3019514	10.7056007	50886.284	40
83	2007.274	9.3026066	10.7049709	50812.539	39
84	2010.300	9.3032609	10.7043420	50739.012	38
85	2013.327	9.3039143	10.7037141	50665.701	37
86	2016.354	9.3045667	10.7030871	50592.606	36
87	2019.381	9.3052183	10.7024610	50519.726	35
88	2022.409	9.3058689	10.7018359	50447.060	34
89	2025.437	9.3065187	10.7012117	50374.607	33
90	2028.465	9.3071675	10.7005884	50302.367	32
91	2031.494	9.3078155	10.7000961	50230.337	31
92	2034.523	9.3084626	10.6995447	50158.517	30
93	2037.552	9.3091088	10.6989724	50086.907	29
94	2040.582	9.3097541	10.6984104	50015.505	28
95	2043.612	9.3103985	10.6978683	49944.311	27
96	2046.643	9.3110421	10.6973263	49873.323	26
97	2049.674	9.3116848	10.6967845	49802.541	25
98	2052.705	9.3123266	10.6962426	49731.964	24
99	2055.737	9.3129676	10.6957006	49661.591	23
100	2058.769	9.3136076	10.6951586	49591.421	22
101	2061.801	9.3142468	10.6946166	49521.453	21
102	2064.834	9.3148851	10.6940746	49451.687	20
103	2067.867	9.3155225	10.6935326	49382.120	19
104	2070.900	9.3161592	10.6929906	49312.754	18
105	2073.934	9.3167959	10.6924486	49243.586	17
106	2076.967	9.3174326	10.6919066	49174.616	16
107	2080.000	9.3180693	10.6913646	49105.844	15
108	2083.033	9.3187059	10.6908226	49037.267	14
109	2086.066	9.3193426	10.6902806	48968.886	13
110	2089.100	9.3199793	10.6897386	48900.700	12
111	2092.145	9.3206159	10.6891966	48832.707	11
112	2095.188	9.3212526	10.6886546	48764.907	10
113	2098.231	9.3218893	10.6881126	48697.299	9
114	2101.275	9.3225259	10.6875706	48629.882	8
115	2104.320	9.3231626	10.6870286	48562.657	7
116	2107.364	9.3237993	10.6864866	48495.621	6
117	2110.409	9.3244359	10.6859446	48428.774	5
118	2113.454	9.3250726	10.6854026	48362.114	4
119	2116.499	9.3257093	10.6848606	48295.643	3
120	2119.544	9.3263459	10.6843186	48229.357	2
121	2122.589	9.3269826	10.6837766	48163.258	1
122	2125.634	9.3276193	10.6832346	48097.343	0

		11	N. Sec.	L. Sec.	D.		
10.7113477	51445.540	60	10187.168	10.0080534	246	9.9919466	9816.271
10.7106737	51365.763	59	10187.744	10.0080780	246	9.9919220	9815.716
10.7100007	51286.222	58	10188.321	10.0081026	247	9.9918974	9815.160
10.7093287	51206.921	57	10188.899	10.0081273	247	9.9918727	9814.603
10.7086576	51127.355	56	10189.478	10.0081520	247	9.9918480	9814.045
10.7079874	51049.024	55	10190.058	10.0081767	247	9.9918233	9813.486
10.7073183	50970.424	54	10190.639	10.0082014	247	9.9917986	9812.926
10.7066500	50892.061	53	10191.221	10.0082263	249	9.9917737	9812.366
10.7059828	50813.928	52	10191.804	10.0082511	249	9.9917489	9811.805
10.7053164	50736.025	51	10192.388	10.0082760	249	9.9917240	9811.243
10.7046511	50658.352	50	10192.973	10.0083009	249	9.9916991	9810.680
10.7039866	50580.907	49	10193.559	10.0083259	249	9.9916741	9810.116
10.7033221	50503.690	48	10194.146	10.0083508	249	9.9916492	9809.551
10.7026605	50426.702	47	10194.734	10.0083759	251	9.9916241	9808.986
10.7019989	50349.935	46	10195.323	10.0084010	251	9.9915990	9808.420
10.7013382	50273.393	45	10195.912	10.0084261	251	9.9915739	9807.853
10.7006784	50197.078	44	10196.502	10.0084512	251	9.9915488	9807.285
10.7000196	50120.984	43	10197.093	10.0084764	252	9.9915236	9806.716
10.6993617	50045.111	42	10197.685	10.0085016	252	9.9914984	9806.146
10.6987026	49969.459	41	10198.278	10.0085269	253	9.9914731	9805.576
10.6980488	49894.027	40	10198.872	10.0085522	253	9.9914478	9805.005
10.6973934	49818.813	39	10199.467	10.0085775	253	9.9914225	9804.433
10.6967391	49743.810	38	10200.063	10.0086029	254	9.9913971	9803.860
10.6960857	49669.037	37	10200.660	10.0086283	254	9.9913717	9803.286
10.6954333	49594.474	36	10201.258	10.0086538	255	9.9913462	9802.711
10.6947817	49520.125	35	10201.857	10.0086793	255	9.9913207	9802.136
10.6941311	49445.993	34	10202.457	10.0087048	255	9.9912952	9801.560
10.6934812	49372.068	33	10203.058	10.0087304	256	9.9912696	9800.983
10.6928335	49298.358	32	10203.660	10.0087560	256	9.9912440	9800.405
10.6921849	49224.859	31	10204.263	10.0087816	256	9.9912184	9799.826
10.6915374	49151.570	30	10204.867	10.0088073	257	9.9911927	9799.247
10.6908912	49078.491	29	10205.471	10.0088330	257	9.9911670	9798.667
10.6902459	49005.620	28	10206.076	10.0088588	258	9.9911412	9798.086
10.6896015	48932.956	27	10206.682	10.0088845	258	9.9911154	9797.504
10.6889579	48860.499	26	10207.289	10.0089104	258	9.9910896	9796.921
10.6883152	48788.248	25	10207.897	10.0089363	259	9.9910637	9796.337
10.6876734	48716.201	24	10208.506	10.0089622	259	9.9910378	9795.752
10.6870325	48644.359	23	10209.116	10.0089881	259	9.9910119	9795.167
10.6863924	48572.719	22	10209.727	10.0090141	260	9.9909859	9794.581
10.6857532	48501.282	21	10203.339	10.0090402	261	9.9909598	9793.994
10.6851149	48430.045	20	10210.952	10.0090662	260	9.9909338	9793.406
10.6844774	48359.010	19	10211.566	10.0090923	261	9.9909077	9792.817
10.6838408	48288.174	18	10212.181	10.0091185	262	9.9908815	9792.228
10.6832050	48217.536	17	10212.797	10.0091447	262	9.9908553	9791.638
10.6825700	48147.096	16	10213.414	10.0091709	262	9.9908291	9791.047
10.6819360	48076.854	15	10214.032	10.0091971	263	9.9908029	9790.455
10.6813028	48006.808	14	10214.650	10.0092234	263	9.9907766	9789.862
10.6806705	47936.957	13	10215.269	10.0092498	264	9.9907502	9789.268
10.6800389	47867.300	12	10215.889	10.0092761	263	9.9907239	9788.674
10.6794082	47797.837	11	10216.510	10.0093026	265	9.9906974	9788.079
10.6787784	47728.567	10	10217.132	10.0093290	264	9.9906710	9787.483
10.6781494	47659.490	9	10217.755	10.0093555	265	9.9906445	9786.886
10.6775212	47590.603	8	10218.379	10.0093820	265	9.9906180	9786.288
10.6768939	47521.907	7	10219.004	10.0094086	266	9.9905914	9785.689
10.6762673	47453.401	6	10219.630	10.0094352	266	9.9905648	9785.090
10.6756416	47385.085	5	10220.257	10.0094618	266	9.9905382	9784.490
10.6750168	47316.954	4	10220.885	10.0094885	267	9.9905115	9783.889
10.6743937	47249.012	3	10221.514	10.0095152	267	9.9904848	9783.287
10.6737765	47181.256	2	10222.144	10.0095420	268	9.9904580	9782.684
10.6731471	47113.686	1	10222.775	10.0095688	268	9.9904312	9782.080
10.6725255	47046.301	0	10223.407	10.0095956	268	9.9904044	9781.476
L. Tan.	N. Tan.	78			D.	L. Sin.	N. Sin.

12	N. Sin.	L. Sin.	Dif.				12	N. Tan.	L. Tan.	Dif.
0	2079.117	9.3178789		10.6821211	48097.343	60	0	2125.565	9.3274745	
1	2081.952	9.3184728	5939	10.6815272	48031.613	59	1	2128.606	9.3280955	6208
2	2084.807	9.3190657	5931	10.6809341	47966.066	58	2	2131.647	9.3287153	6200
3	2087.672	9.3196581	5922	10.6803419	47900.702	57	3	2134.688	9.3293345	6192
4	2090.497	9.3202495	5914	10.6797505	47835.520	56	4	2137.730	9.3299528	6183
5	2093.341	9.3208400	5905	10.6791600	47770.519	55	5	2140.772	9.3305704	6176
6	2096.186	9.3214297	5897	10.6785703	47705.699	54	6	2143.814	9.3311872	6168
7	2099.030	9.3220186	5889	10.6779814	47641.058	53	7	2146.857	9.3318031	6160
8	2101.874	9.3226066	5880	10.6773934	47576.596	52	8	2149.900	9.3324183	6152
9	2104.718	9.3231938	5872	10.6768062	47512.312	51	9	2152.944	9.3330327	6144
10	2107.561	9.3237802	5864	10.6762198	47448.206	50	10	2155.988	9.3336463	6136
11	2110.405	9.3243657	5855	10.6756343	47384.277	49	11	2159.032	9.3342591	6128
12	2113.248	9.3249505	5848	10.6750495	47320.523	48	12	2162.077	9.3348711	6120
13	2116.091	9.3255344	5839	10.6744656	47256.945	47	13	2165.122	9.3354823	6112
14	2118.934	9.3261174	5830	10.6738826	47193.542	46	14	2168.167	9.3360927	6104
15	2121.777	9.3266997	5823	10.6733003	47130.313	45	15	2171.213	9.3367024	6097
16	2124.619	9.3272811	5814	10.6727189	47067.254	44	16	2174.259	9.3373113	6089
17	2127.462	9.3278617	5806	10.6721383	47004.372	43	17	2177.306	9.3379194	6081
18	2130.304	9.3284416	5799	10.6715584	46941.660	42	18	2180.353	9.3385267	6073
19	2133.146	9.3290206	5790	10.6709794	46879.119	41	19	2183.400	9.3391333	6066
20	2135.988	9.3295988	5782	10.6704012	46816.748	40	20	2186.448	9.3397391	6058
21	2138.829	9.3301761	5773	10.6698239	46754.548	39	21	2189.496	9.3403441	6050
22	2141.671	9.3307527	5766	10.6692473	46692.516	38	22	2192.544	9.3409484	6043
23	2144.512	9.3313285	5758	10.6686715	46630.652	37	23	2195.593	9.3415521	6035
24	2147.353	9.3319035	5750	10.6680955	46568.956	36	24	2198.642	9.3421554	6027
25	2150.194	9.3324777	5742	10.6675223	46507.427	35	25	2201.692	9.3427586	6020
26	2153.035	9.3330511	5734	10.6669489	46446.054	34	26	2204.743	9.3433617	6012
27	2155.876	9.3336237	5726	10.6663763	46384.867	33	27	2207.792	9.3439647	6005
28	2158.716	9.3341955	5718	10.6658045	46323.835	32	28	2210.844	9.3445680	5997
29	2161.556	9.3347665	5710	10.6652335	46262.967	31	29	2213.895	9.3451707	5990
30	2164.396	9.3353368	5703	10.6646632	46202.263	30	30	2216.947	9.3457735	5982
31	2167.236	9.3359062	5694	10.6640938	46141.722	29	31	2219.999	9.3463757	5975
32	2170.076	9.3364745	5687	10.6635251	46081.343	28	32	2223.051	9.3469774	5967
33	2172.915	9.3370428	5679	10.6629572	46021.126	27	33	2226.104	9.3475787	5960
34	2175.754	9.3376099	5671	10.6623901	45961.070	26	34	2229.157	9.3481794	5953
35	2178.593	9.3381762	5663	10.6618274	45901.174	25	35	2232.211	9.3487793	5945
36	2181.432	9.3387418	5656	10.6612582	45841.439	24	36	2235.265	9.3493790	5938
37	2184.271	9.3393066	5647	10.6606935	45781.862	23	37	2238.319	9.3499782	5930
38	2187.110	9.3398706	5639	10.6601294	45722.444	22	38	2241.374	9.3505768	5922
39	2189.948	9.3404338	5632	10.6595662	45663.183	21	39	2244.429	9.3511750	5916
40	2192.786	9.3409963	5625	10.6590037	45604.080	20	40	2247.485	9.3517729	5909
41	2195.624	9.3415580	5617	10.6584410	45545.134	19	41	2250.541	9.3523706	5901
42	2198.462	9.3421190	5610	10.6578810	45486.344	18	42	2253.597	9.3529681	5894
43	2201.300	9.3426792	5602	10.6573208	45427.709	17	43	2256.654	9.3535650	5887
44	2204.137	9.3432386	5594	10.6567614	45369.229	16	44	2259.711	9.3541615	5880
45	2206.974	9.3437973	5587	10.6562027	45310.903	15	45	2262.769	9.3547576	5872
46	2209.811	9.3443552	5579	10.6556448	45252.730	14	46	2265.827	9.3553534	5865
47	2212.643	9.3449124	5572	10.6550876	45194.711	13	47	2268.885	9.3559489	5858
48	2215.485	9.3454688	5564	10.6545312	45136.844	12	48	2271.944	9.3565442	5851
49	2218.321	9.3460245	5557	10.6539755	45079.129	11	49	2275.003	9.3571392	5844
50	2221.158	9.3465794	5549	10.6534206	45021.565	10	50	2278.063	9.3577340	5837
51	2223.994	9.3471336	5542	10.6528664	44964.152	9	51	2281.123	9.3583287	5829
52	2226.830	9.3476870	5534	10.6523130	44906.889	8	52	2284.183	9.3589231	5822
53	2229.666	9.3482397	5527	10.6517603	44849.775	7	53	2287.244	9.3595172	5816
54	2232.501	9.3487917	5520	10.6512083	44792.810	6	54	2290.305	9.3601111	5809
55	2235.337	9.3493429	5512	10.6506571	44735.993	5	55	2293.367	9.3607047	5801
56	2238.172	9.3498934	5505	10.6501066	44679.324	4	56	2296.429	9.3612981	5795
57	2241.007	9.3504432	5498	10.6495568	44622.803	3	57	2299.492	9.3618913	5788
58	2243.841	9.3509922	5490	10.6490078	44566.428	2	58	2302.555	9.3624843	5781
59	2246.676	9.3515405	5483	10.6484595	44510.198	1	59	2305.618	9.3630774	5774
60	2249.511	9.3520880	5475	10.6479120	44454.115	0	60	2308.682	9.3636704	5767
			Dif.	L. Sec.	N. Sec.	77				Dif.

			12	N. Sec.	L. Sec.	D.			
10.6725255	47046.301	60	0	10223.407	10.0095955	269	9.9904044	9781.4766	
10.6719047	46979.100	59	1	10224.040	10.0096215	269	9.9903775	9780.8715	
10.6712847	46912.083	58	2	10224.673	10.0096494	269	9.9903506	9780.2665	
10.6706655	46845.248	57	3	10225.307	10.0096763	269	9.9903237	9779.6585	
10.6700472	46778.595	56	4	10225.942	10.0097033	270	9.9902967	9779.0505	
10.6694296	46712.124	55	5	10226.578	10.0097303	270	9.9902697	9778.4415	
10.6688128	46645.832	54	6	10227.215	10.0097574	271	9.9902426	9777.8325	
10.6681969	46579.721	53	7	10227.853	10.0097845	271	9.9902155	9777.2235	
10.6675817	46513.788	52	8	10228.492	10.0098117	272	9.9901883	9776.6115	
10.6669673	46448.034	51	9	10229.132	10.0098388	273	9.9901612	9775.9995	
10.6663537	46382.457	50	10	10229.773	10.0098661	273	9.9901339	9775.3865	
10.6657409	46317.056	49	11	10230.415	10.0098933	272	9.9901067	9774.7734	
10.6651289	46251.832	48	12	10231.058	10.0099206	273	9.9900794	9774.1594	
10.6645177	46186.783	47	13	10231.702	10.0099479	273	9.9900521	9773.5444	
10.6639073	46121.908	46	14	10232.347	10.0099753	274	9.9900247	9772.9284	
10.6632976	46057.207	45	15	10232.993	10.0100027	274	9.9899973	9772.3114	
10.6626887	45992.680	44	16	10233.640	10.0100301	275	9.9899698	9771.6934	
10.6620806	45928.325	43	17	10234.288	10.0100577	275	9.9899423	9771.0754	
10.6614733	45864.143	42	18	10234.937	10.0100852	275	9.9899148	9770.4564	
10.6608667	45800.129	41	19	10235.587	10.0101127	275	9.9898873	9769.8364	
10.6602609	45736.287	40	20	10236.238	10.0101403	276	9.9898597	9769.2154	
10.6596559	45672.614	39	21	10236.890	10.0101680	277	9.9898320	9768.5933	
10.6590516	45609.111	38	22	10237.543	10.0101957	277	9.9898043	9767.9703	
10.6584481	45545.776	37	23	10238.196	10.0102234	277	9.9897766	9767.3473	
10.6578454	45482.608	36	24	10238.850	10.0102511	277	9.9897489	9766.7233	
10.6572434	45419.608	35	25	10239.505	10.0102789	278	9.9897211	9766.0983	
10.6566422	45356.773	34	26	10240.161	10.0103068	279	9.9896932	9765.4723	
10.6560417	45294.105	33	27	10240.818	10.0103346	280	9.9896654	9764.8453	
10.6554420	45231.601	32	28	10241.476	10.0103626	280	9.9896374	9764.2173	
10.6548430	45169.261	31	29	10242.135	10.0103905	280	9.9896095	9763.5893	
10.6542448	45107.085	30	30	10242.795	10.0104185	280	9.9895815	9762.9603	
10.6536473	45045.072	29	31	10243.456	10.0104465	280	9.9895535	9762.3303	
10.6530506	44983.221	28	32	10244.118	10.0104746	281	9.9895254	9761.6993	
10.6524546	44921.532	27	33	10244.781	10.0105027	281	9.9894973	9761.0673	
10.6518593	44860.004	26	34	10245.445	10.0105308	282	9.9894692	9760.4353	
10.6512648	44798.636	25	35	10246.110	10.0105590	282	9.9894410	9759.8023	
10.6506710	44737.428	24	36	10246.776	10.0105872	282	9.9894128	9759.1683	
10.6500780	44676.379	23	37	10247.443	10.0106155	283	9.9893845	9758.5333	
10.6494857	44615.489	22	38	10248.111	10.0106438	283	9.9893562	9757.8973	
10.6488941	44554.756	21	39	10248.780	10.0106721	284	9.9893279	9757.2603	
10.6483032	44494.181	20	40	10249.449	10.0107005	284	9.9892995	9756.6233	
10.6477131	44433.762	19	41	10250.119	10.0107289	284	9.9892711	9755.9853	
10.6471237	44373.499	18	42	10250.790	10.0107573	285	9.9892427	9755.3463	
10.6465350	44313.392	17	43	10251.462	10.0107858	285	9.9892142	9754.7063	
10.6459470	44253.439	16	44	10252.135	10.0108144	285	9.9891856	9754.0653	
10.6453598	44193.641	15	45	10252.809	10.0108429	287	9.9891571	9753.4233	
10.6447733	44133.996	14	46	10253.484	10.0108716	286	9.9891285	9752.7813	
10.6441874	44074.504	13	47	10254.160	10.0109002	287	9.9890998	9752.1383	
10.6436023	44015.164	12	48	10254.837	10.0109289	287	9.9890711	9751.4943	
10.6430179	43955.976	11	49	10255.515	10.0109576	287	9.9890424	9750.8493	
10.6424342	43896.940	10	50	10256.194	10.0109863	288	9.9890137	9750.2033	
10.6418513	43838.054	9	51	10256.874	10.0110151	289	9.9889849	9749.5563	
10.6412690	43779.317	8	52	10257.555	10.0110440	289	9.9889560	9748.9093	
10.6406874	43720.731	7	53	10258.237	10.0110729	289	9.9889271	9748.2613	
10.6401065	43662.293	6	54	10258.920	10.0111018	289	9.9888982	9747.6123	
10.6395264	43604.003	5	55	10259.604	10.0111307	290	9.9888693	9746.9623	
10.6389469	43545.861	4	56	10260.289	10.0111597	290	9.9888403	9746.3113	
10.6383681	43487.866	3	57	10260.975	10.0111887	291	9.9888113	9745.6603	
10.6377900	43430.018	2	58	10261.662	10.0112178	291	9.9887822	9745.0083	
10.6372126	43372.316	1	59	10262.350	10.0112469	292	9.9887531	9744.3553	
10.6366359	43314.759	0	60	10263.039	10.0112761	292	9.9887239	9743.7013	
L. Tan.	N. Tan.	77					D. L. Sin.	N. Sin.	77

13	N. Sin.	L. Sin.	Dif.			13	N. Tan.	L. Tan.	Dif.
0	2249.511	9.3520380		10.6479120	44454.115	60	02308.682	9.3633641	5760
1	2252.345	9.3526349	5469	10.6473651	44398.176	59	12311.746	9.3639401	5734
2	2255.179	9.3531810	5461	10.6468190	44342.282	58	22314.811	9.3645155	5746
3	2258.013	9.3537264	5454	10.6462736	44286.731	57	32317.876	9.3650901	5740
4	2260.846	9.3542710	5446	10.6457290	44231.224	56	42320.941	9.3656641	5733
5	2263.680	9.3548150	5440	10.6451850	44175.859	55	52324.007	9.3662374	5726
6	2266.513	9.3553582	5432	10.6446418	44120.637	54	62327.073	9.3668102	5719
7	2269.346	9.3559007	5425	10.6440993	44065.556	53	72330.140	9.3673819	5713
8	2272.179	9.3564426	5419	10.6435574	44010.516	52	82333.207	9.3679532	5706
9	2275.012	9.3569836	5410	10.6430164	43955.517	51	92336.274	9.3685238	5699
10	2277.844	9.3575240	5404	10.6424760	43901.158	50	102339.342	9.3690937	5692
11	2280.677	9.3580637	5397	10.6419363	43846.638	49	112342.410	9.3696629	5686
12	2283.509	9.3586027	5390	10.6413973	43792.257	48	122345.479	9.3702315	5679
13	2286.341	9.3591409	5382	10.6408591	43738.015	47	132348.548	9.3707994	5673
14	2289.172	9.3596785	5376	10.6403215	43683.910	46	142351.617	9.3713667	5666
15	2292.004	9.3602154	5369	10.6397846	43629.943	45	152354.687	9.3719333	5659
16	2294.836	9.3607515	5361	10.6392485	43576.113	44	162357.758	9.3724992	5653
17	2297.667	9.3612870	5355	10.6387130	43522.419	43	172360.829	9.3730644	5646
18	2300.497	9.3618217	5347	10.6381783	43468.861	42	182363.900	9.3736291	5639
19	2303.328	9.3623558	5341	10.6376442	43415.438	41	192366.972	9.3741930	5633
20	2306.159	9.3628899	5334	10.6371108	43362.150	40	202370.044	9.3747565	5627
21	2308.989	9.3634219	5327	10.6365781	43308.996	39	212373.116	9.3753190	5620
22	2311.819	9.3639539	5320	10.6360461	43255.977	38	222376.189	9.3758812	5613
23	2314.649	9.3644852	5313	10.6355148	43203.090	37	232379.262	9.3764432	5607
24	2317.479	9.3650158	5306	10.6349842	43150.335	36	242382.336	9.3770050	5601
25	2320.309	9.3655458	5300	10.6344542	43097.715	35	252385.410	9.3775661	5594
26	2323.138	9.3660750	5292	10.6339250	43045.225	34	262388.485	9.3781265	5588
27	2325.967	9.3666036	5286	10.6333964	42992.867	33	272391.560	9.3786873	5581
28	2328.796	9.3671315	5279	10.6328685	42940.640	32	282394.635	9.3792479	5575
29	2331.625	9.3676587	5272	10.6323413	42888.543	31	292397.711	9.3797969	5568
30	2334.454	9.3681853	7266	10.6318147	42836.576	30	302400.787	9.3803537	5563
31	2337.282	9.3687111	5258	10.6312889	42784.738	29	312403.864	9.3809100	5556
32	2340.110	9.3692363	5252	10.6307637	42733.029	28	322406.941	9.3814655	5550
33	2342.938	9.3697608	5245	10.6302392	42681.449	27	332410.019	9.3820205	5543
34	2345.766	9.3702848	5239	10.6297153	42629.996	26	342413.097	9.3825748	5537
35	2348.594	9.3708079	5232	10.6291921	42578.671	25	352416.176	9.3831285	5531
36	2351.421	9.3713310	5225	10.6286696	42527.474	24	362419.255	9.3836816	5524
37	2354.248	9.3718532	5219	10.6281477	42476.402	23	372422.334	9.3842340	5518
38	2357.075	9.3723755	5212	10.6276265	42425.457	22	382425.414	9.3847858	5512
39	2359.902	9.3728969	5205	10.6271060	42374.637	21	392428.494	9.3853370	5506
40	2362.729	9.3734139	5199	10.6265861	42323.943	20	402431.575	9.3858876	5500
41	2365.555	9.3739331	5192	10.6260669	42273.373	19	412434.656	9.3864376	5493
42	2368.381	9.3744517	5186	10.6255483	42222.928	18	422437.737	9.3869869	5487
43	2371.207	9.3749696	5179	10.6250304	42172.606	17	432440.819	9.3875356	5481
44	2374.033	9.3754868	5172	10.6245132	42122.408	16	442443.901	9.3880837	5475
45	2376.859	9.3760034	5166	10.6239966	42072.333	15	452446.984	9.3886312	5469
46	2379.684	9.3765194	5160	10.6234806	42022.280	14	462450.067	9.3891781	5463
47	2382.510	9.3770347	5153	10.6229653	41972.249	13	472453.151	9.3897244	5456
48	2385.335	9.3775493	5146	10.6224507	41922.240	12	482456.235	9.3902700	5451
49	2388.159	9.3780633	5140	10.6219367	41872.252	11	492459.320	9.3908151	5444
50	2390.984	9.3785767	5134	10.6214233	41822.785	10	502462.405	9.3913595	5439
51	2393.808	9.3790894	5127	10.6209106	41774.438	9	512465.491	9.3919034	5432
52	2396.633	9.3796015	5121	10.6203985	41725.210	8	522468.577	9.3924466	5427
53	2399.457	9.3801129	5114	10.6198871	41676.102	7	532471.663	9.3929893	5420
54	2402.280	9.3806237	5108	10.6193763	41627.114	6	542474.750	9.3935313	5414
55	2405.104	9.3811339	5102	10.6188661	41578.243	5	552477.837	9.3940727	5409
56	2407.927	9.3816434	5095	10.6183566	41529.491	4	562480.925	9.3946136	5402
57	2410.751	9.3821522	5089	10.6178477	41480.856	3	572484.013	9.3951538	5397
58	2413.574	9.3826605	5082	10.6173395	41432.339	2	582487.102	9.3956935	5391
59	2416.396	9.3831682	5077	10.6168318	41383.939	1	592490.191	9.3962326	5385
60	2419.219	9.3836752	5070	10.6163248	41335.655	0	602493.280	9.3967711	
			Dif.	L. Sec.	N. Sec.	176			Dif.

			12	N. Sec.	L. Sec.	D			
10.6366359	43314755	60	0	10263.039	10.0112761	292	9.9887239	9743.701	1
10.6360599	43257.347	59	1	10263.729	10.0113053	292	9.9886947	9743.046	1
10.6354845	43200.079	58	2	10264.420	10.0113345	292	9.9886655	9742.390	1
10.6349099	43142.955	57	3	10265.112	10.0113637	292	9.9886363	9741.734	1
10.6343359	43085.974	56	4	10265.805	10.0113930	293	9.9886070	9741.077	1
10.6337626	43029.136	55	5	10266.499	10.0114224	294	9.9885776	9740.419	1
10.6331900	42972.440	54	6	10267.194	10.0114518	294	9.9885482	9739.760	1
10.6326181	42915.885	53	7	10267.890	10.0114812	294	9.9885188	9739.100	1
10.6320468	42859.472	52	8	10268.587	10.0115106	294	9.9884894	9738.439	1
10.6314762	42803.199	51	9	10269.284	10.0115401	295	9.9884599	9737.778	1
10.6309063	42747.066	50	10	10269.982	10.0115697	295	9.9884303	9737.117	1
10.6303371	42691.072	49	11	10270.681	10.0115992	295	9.9884008	9736.453	1
10.6297685	42635.218	48	12	10271.381	10.0116288	296	9.9883712	9735.789	1
10.6292006	42579.501	47	13	10272.082	10.0116585	297	9.9883415	9735.124	1
10.6286333	42523.923	46	14	10272.784	10.0116882	297	9.9883118	9734.458	1
10.6280667	42468.482	45	15	10273.487	10.0117179	297	9.9882821	9733.792	1
10.6275008	42413.177	44	16	10274.191	10.0117477	298	9.9882523	9733.125	1
10.6269355	42358.009	43	17	10274.896	10.0117775	298	9.9882225	9732.457	1
10.6263709	42302.977	42	18	10275.602	10.0118073	298	9.9881927	9731.788	1
10.6258070	42248.080	41	19	10276.309	10.0118372	299	9.9881628	9731.118	1
10.6252437	42193.218	40	20	10277.017	10.0118671	299	9.9881329	9730.448	1
10.6246810	42138.690	39	21	10277.726	10.0118971	300	9.9881029	9729.777	1
10.6241190	42084.196	38	22	10278.436	10.0119271	300	9.9880729	9729.105	1
10.6235577	42029.835	37	23	10279.147	10.0119571	300	9.9880429	9728.432	1
10.6229970	41975.606	36	24	10279.859	10.0119872	301	9.9880128	9727.758	1
10.6224369	41921.510	35	25	10280.572	10.0120173	301	9.9879827	9727.084	1
10.6218775	41867.546	34	26	10281.286	10.0120475	302	9.9879525	9726.409	1
10.6213187	41813.713	33	27	10282.001	10.0120777	302	9.9879223	9725.733	1
10.6207600	41760.011	32	28	10282.717	10.0121079	303	9.9878921	9725.056	1
10.6202031	41706.440	31	29	10283.434	10.0121382	303	9.9878618	9724.378	1
10.6196463	41652.998	30	30	10284.152	10.0121685	303	9.9878315	9723.699	1
10.6190900	41599.685	29	31	10284.871	10.0121988	303	9.9878012	9723.019	1
10.6185345	41546.501	28	32	10285.591	10.0122292	304	9.9877708	9722.339	1
10.6179795	41493.446	27	33	10286.312	10.0122596	304	9.9877404	9721.658	1
10.6174252	41440.519	26	34	10287.034	10.0122901	305	9.9877099	9720.976	1
10.6168715	41387.715	25	35	10287.757	10.0123206	305	9.9876794	9720.293	1
10.6163184	41335.046	24	36	10288.481	10.0123512	306	9.9876488	9719.609	1
10.6157660	41282.499	23	37	10289.206	10.0123817	305	9.9876183	9718.925	1
10.6152142	41230.079	22	38	10289.932	10.0124124	307	9.9875876	9718.240	1
10.6146630	41177.784	21	39	10290.658	10.0124430	306	9.9875570	9717.554	1
10.6141124	41125.614	20	40	10291.385	10.0124737	307	9.9875263	9716.867	1
10.6135624	41073.569	19	41	10292.113	10.0125045	308	9.9874955	9716.179	1
10.6130131	41021.649	18	42	10292.842	10.0125352	307	9.9874648	9715.491	1
10.6124644	40969.852	17	43	10293.572	10.0125661	309	9.9874339	9714.802	1
10.6119163	40918.178	16	44	10294.303	10.0125969	308	9.9874031	9714.112	1
10.6113688	40866.627	15	45	10295.035	10.0126278	309	9.9873722	9713.421	1
10.6108219	40815.199	14	46	10295.768	10.0126587	309	9.9873413	9712.729	1
10.6102756	40763.892	13	47	10296.502	10.0126897	310	9.9873103	9712.036	1
10.6097300	40712.707	12	48	10297.237	10.0127207	310	9.9872793	9711.343	1
10.6091849	40661.643	11	49	10297.973	10.0127518	311	9.9872482	9710.649	1
10.6086405	40610.700	10	50	10298.710	10.0127829	311	9.9872171	9709.954	1
10.6080966	40559.877	9	51	10299.446	10.0128140	311	9.9871860	9709.258	1
10.6075534	40509.174	8	52	10300.187	10.0128451	311	9.9871549	9708.561	1
10.6070107	40458.590	7	53	10300.927	10.0128764	312	9.9871236	9707.863	1
10.6064687	40408.125	6	54	10301.668	10.0129076	312	9.9870924	9707.165	1
10.6059273	40357.779	5	55	10302.410	10.0129389	313	9.9870611	9706.466	1
10.6053864	40307.550	4	56	10303.153	10.0129702	313	9.9870298	9705.766	1
10.6048462	40257.440	3	57	10303.897	10.0130016	314	9.9869984	9705.065	1
10.6043065	40207.642	2	58	10304.642	10.0130330	314	9.9869670	9704.363	1
10.6037674	40157.570	1	59	10305.388	10.0130644	314	9.9869356	9703.660	1
10.6032289	40107.809	0	60	10306.135	10.0130959	315	9.9869041	9702.957	1

L. Tan. N. Tan. 176

D. L. Sin. N. Sin 176

14	N. Sin.	L. Sin.	Diff.			14	N. Tan.	L. Tan.	Diff.
0	2419.219	9.3836752		10.6163248	41335.66560	0	2497.280	9.3967711	5378
1	2422.041	9.3841815	5063	10.6158185	41287.48759	1	2496.370	9.3973089	5374
2	2424.863	9.3846873	5058	10.6153127	41239.43558	2	2499.460	9.3978463	5367
3	2427.685	9.3851924	5054	10.6148070	41191.49357	3	2501.551	9.3983830	5361
4	2430.507	9.3856969	5039	10.6143031	41143.67556	4	2505.642	9.3989191	5356
5	2433.329	9.3862008	5032	10.6137992	41095.96755	5	2508.734	9.3994547	5349
6	2436.150	9.3867040	5027	10.6132960	41048.27454	6	2511.826	9.3999896	5344
7	2438.971	9.3872067	5020	10.6127933	41000.82353	7	2514.919	9.4005240	5338
8	2441.792	9.3877037	5014	10.6122913	40953.52652	8	2518.012	9.4010578	5332
9	2444.613	9.3882101	5008	10.6117899	40906.27251	9	2521.106	9.4015910	5327
10	2447.433	9.3887109	5002	10.6112891	40859.13050	10	2524.200	9.4021237	5321
11	2450.254	9.3892111	4995	10.6107883	40812.10049	11	2527.294	9.4026568	5315
12	2453.074	9.3897106	4990	10.6102894	40765.18143	12	2530.389	9.4031873	5309
13	2455.894	9.3902094	4983	10.6097904	40718.37447	13	2533.484	9.4037182	5304
14	2458.713	9.3907079	4978	10.6092921	40671.67746	14	2536.580	9.4042486	5298
15	2461.533	9.3912057	4971	10.6087943	40625.09145	15	2539.676	9.4047784	5292
16	2464.352	9.3917028	4965	10.6082972	40578.61544	16	2542.773	9.4053076	5287
17	2467.171	9.3921992	4959	10.6078007	40532.24943	17	2545.870	9.4058363	5281
18	2469.990	9.3926952	4953	10.6073048	40485.93242	18	2548.968	9.4063644	5275
19	2472.809	9.3931905	4947	10.6068095	40439.84441	19	2552.066	9.4068919	5270
20	2475.627	9.3936851	4942	10.6063148	40393.80440	20	2555.165	9.4074189	5264
21	2478.445	9.3941794	4935	10.6058206	40347.87239	21	2558.264	9.4079453	5259
22	2481.263	9.3946729	4929	10.6053271	40302.04838	22	2561.363	9.4084712	5253
23	2484.081	9.3951658	4922	10.6048342	40256.33237	23	2564.463	9.4089965	5247
24	2486.899	9.3956581	4918	10.6043419	40210.72236	24	2567.563	9.4095212	5242
25	2489.716	9.3961499	4911	10.6038501	40165.21935	25	2570.664	9.4100459	5236
26	2492.533	9.3966410	4905	10.6033590	40119.82334	26	2573.766	9.4105690	5231
27	2495.350	9.3971315	4900	10.6028685	40074.53233	27	2576.868	9.4110921	5225
28	2498.167	9.3976215	4894	10.6023785	40029.34732	28	2579.970	9.4116146	5220
29	2500.984	9.3981109	4887	10.6018891	39984.26731	29	2583.073	9.4121366	5215
30	2503.800	9.3985996	4882	10.6014004	39939.29230	30	2586.176	9.4126581	5208
31	2506.616	9.3990878	4876	10.6009122	39894.42129	31	2589.280	9.4131789	5204
32	2509.432	9.3995754	4871	10.6004246	39849.65428	32	2592.384	9.4136993	5198
33	2512.248	9.4000625	4864	10.5999375	39804.99127	33	2595.488	9.4142191	5192
34	2515.063	9.4005489	4859	10.5994511	39760.43126	34	2598.593	9.4147383	5187
35	2517.879	9.4010348	4853	10.5989652	39715.97525	35	2601.699	9.4152572	5182
36	2520.694	9.4015201	4847	10.5984799	39671.62124	36	2604.805	9.4157752	5176
37	2523.508	9.4020048	4841	10.5979952	39627.36923	37	2607.911	9.4162928	5171
38	2526.323	9.4024889	4835	10.5975111	39583.21922	38	2611.018	9.4168099	5166
39	2529.137	9.4029734	4829	10.5970276	39539.17121	39	2614.126	9.4173265	5160
40	2531.952	9.4034554	4824	10.5965446	39495.22420	40	2617.234	9.4178435	5155
41	2534.766	9.4039378	4818	10.5960622	39451.37919	41	2620.342	9.4183580	5149
42	2537.579	9.4044196	4813	10.5955804	39407.63318	42	2623.451	9.4188729	5145
43	2540.393	9.4049009	4807	10.5950991	39363.98817	43	2626.560	9.4193874	5139
44	2543.206	9.4053816	4801	10.5946184	39320.44316	44	2629.670	9.4199013	5133
45	2546.019	9.4058617	4796	10.5941383	39276.99715	45	2632.780	9.4204146	5128
46	2548.832	9.4063413	4790	10.5936587	39233.65114	46	2635.891	9.4209271	5123
47	2551.645	9.4068203	4784	10.5931797	39190.40313	47	2639.002	9.4214398	5118
48	2554.458	9.4072987	4779	10.5927013	39147.25412	48	2642.114	9.4219515	5113
49	2557.270	9.4077766	4773	10.5922234	39104.20311	49	2645.226	9.4224625	5107
50	2560.082	9.4082539	4767	10.5917461	39061.25010	50	2648.339	9.4229735	5103
51	2562.894	9.4087306	4761	10.5912694	39018.3959	51	2651.452	9.4234838	5097
52	2565.705	9.4092068	4756	10.5907932	38975.6378	52	2654.566	9.4239935	5091
53	2568.517	9.4096824	4751	10.5903176	38932.9767	53	2657.680	9.4245026	5087
54	2571.328	9.4101575	4745	10.5898425	38890.4116	54	2660.794	9.4250113	5081
55	2574.139	9.4106320	4739	10.5893680	38847.9435	55	2663.909	9.4255194	5077
56	2576.950	9.4111059	4734	10.5888941	38805.5704	56	2667.025	9.4260271	5071
57	2579.760	9.4115792	4729	10.5884207	38763.2933	57	2670.141	9.4265342	5066
58	2582.570	9.4120522	4723	10.5879478	38721.1122	58	2673.257	9.4270409	5061
59	2585.381	9.4125245	4717	10.5874755	38679.0251	59	2676.374	9.4275469	5056
60	2588.190	9.4129962	4712	10.5870038	38637.0330	60	2679.492	9.4280525	
Diff.				L. Sec.	N. Sec.	Diff.			

14 N. Sec.			L. Sec.			D.		
10.6032289	40107.809	60	10306.131	10.0130994	319	9.9869041	7702.957	60
10.6026111	40058.161	59	10306.883	10.0131274	316	9.9868726	7702.253	59
10.6021537	40008.636	58	10307.632	10.0131590	316	9.9868410	7701.448	58
10.6016170	39959.223	57	10308.384	10.0131906	316	9.9868094	7700.842	57
10.6010809	39909.924	56	10309.133	10.0132222	316	9.9867778	7700.235	56
10.6005453	39860.739	55	10309.885	10.0132538	317	9.9867461	7699.428	55
10.6000104	39811.609	54	10310.638	10.0132856	317	9.9867144	7698.720	54
10.5994760	39762.712	53	10311.392	10.0133173	317	9.9866827	7698.011	53
10.5989422	39713.868	52	10312.147	10.0133491	318	9.9866509	7697.301	52
10.5984090	39665.137	51	10312.902	10.0133809	318	9.9866191	7696.590	51
10.5978763	39616.518	50	10313.660	10.0134128	319	9.9865872	7695.879	50
10.5973442	39568.011	49	10314.418	10.0134447	319	9.9865553	7695.167	49
10.5968127	39519.611	48	10315.177	10.0134767	320	9.9865233	7694.454	48
10.5962818	39471.331	47	10315.938	10.0135087	320	9.9864913	7693.740	47
10.5957514	39423.177	46	10316.697	10.0135407	320	9.9864593	7693.025	46
10.5952216	39375.094	45	10317.459	10.0135727	321	9.9864273	7692.305	45
10.5946924	39327.141	44	10318.222	10.0136048	322	9.9863952	7691.592	44
10.5941637	39279.267	43	10318.985	10.0136370	322	9.9863630	7690.875	43
10.5936356	39231.562	42	10319.750	10.0136692	322	9.9863308	7690.157	42
10.5931081	39183.937	41	10320.516	10.0137014	322	9.9862986	7689.438	41
10.5925811	39136.420	40	10321.282	10.0137337	323	9.9862663	7688.718	40
10.5920547	39089.011	39	10322.050	10.0137660	323	9.9862340	7687.998	39
10.5915288	39041.710	38	10322.818	10.0137983	324	9.9862017	7687.277	38
10.5910035	38994.516	37	10323.588	10.0138307	324	9.9861693	7686.555	37
10.5904788	38947.429	36	10324.359	10.0138631	324	9.9861369	7685.832	36
10.5899546	38900.448	35	10325.130	10.0138955	324	9.9861045	7685.108	35
10.5894310	38853.574	34	10325.903	10.0139280	324	9.9860720	7684.383	34
10.5889079	38806.688	33	10326.676	10.0139606	324	9.9860396	7683.657	33
10.5883854	38760.122	32	10327.451	10.0139931	325	9.9860069	7682.931	32
10.5878634	38713.584	31	10328.227	10.0140258	325	9.9859747	7682.204	31
10.5873419	38667.131	30	10329.003	10.0140584	326	9.9859426	7681.476	30
10.5868211	38620.782	29	10329.781	10.0140911	327	9.9859103	7680.747	29
10.5863007	38574.537	28	10330.559	10.0141238	327	9.9858782	7680.018	28
10.5857809	38528.396	27	10331.339	10.0141566	328	9.9858464	7679.288	27
10.5852617	38482.358	26	10332.119	10.0141894	328	9.9858146	7678.557	26
10.5847430	38436.424	25	10332.901	10.0142221	328	9.9857827	7677.825	25
10.5842248	38390.591	24	10333.682	10.0142551	328	9.9857509	7677.092	24
10.5837072	38344.861	23	10334.467	10.0142881	329	9.9857191	7676.358	23
10.5831901	38299.233	22	10335.251	10.0143210	329	9.9856870	7675.623	22
10.5826735	38253.707	21	10336.037	10.0143540	330	9.9856546	7674.888	21
10.5821575	38208.281	20	10336.823	10.0143871	331	9.9856229	7674.152	20
10.5816420	38162.957	19	10337.611	10.0144203	331	9.9855908	7673.415	19
10.5811271	38117.733	18	10338.399	10.0144533	332	9.9855587	7672.677	18
10.5806126	38072.609	17	10339.188	10.0144865	332	9.9855265	7671.938	17
10.5800987	38027.585	16	10339.979	10.0145197	332	9.9854943	7671.199	16
10.5795854	37982.661	15	10340.770	10.0145529	333	9.9854621	7670.459	15
10.5790725	37937.831	14	10341.563	10.0145862	333	9.9854300	7669.718	14
10.5785602	37893.109	13	10342.356	10.0146195	333	9.9853978	7668.976	13
10.5780483	37848.481	12	10343.151	10.0146529	334	9.9853657	7668.233	12
10.5775372	37803.951	11	10343.946	10.0146862	334	9.9853338	7667.490	11
10.5770265	37759.519	10	10344.743	10.0147197	335	9.9853020	7666.746	10
10.5765162	37715.185	9	10345.540	10.0147531	335	9.9852703	7666.001	9
10.5760065	37670.947	8	10346.338	10.0147867	335	9.9852385	7665.255	8
10.5754974	37626.807	7	10347.133	10.0148202	336	9.9852068	7664.508	7
10.5749887	37582.763	6	10347.938	10.0148538	336	9.9851752	7663.764	6
10.5744806	37538.811	5	10348.740	10.0148875	337	9.9851435	7663.012	5
10.5739729	37494.963	4	10349.542	10.0149211	337	9.9851119	7662.263	4
10.5734658	37451.207	3	10350.346	10.0149548	338	9.9850805	7661.513	3
10.5729592	37407.546	2	10351.150	10.0149886	338	9.9850491	7660.762	2
10.5724531	37363.980	1	10351.955	10.0150224	338	9.9850178	7660.010	1
10.5719475	37320.508	0	10352.762	10.0150562	338	9.9849865	7659.258	0
L. Tan.	N. Tan.	75				D. L. Sin.	N. Sin.	75

N. Sin.				L. Sin.				Dif.				N. Sin.				L. Sin.				Dif.												
0	2756.374	9.4403331	4403	10.5596619	36279.553	60	0	2867.454	9.4574964	4765	1	2759.170	9.4407784	4403	10.5592216	36242.788	59	1	2870.602	9.4579730	4765	2	2761.965	9.4412182	4398	10.5587818	36206.101	58	2	2873.751	9.4584491	4765
3	2764.761	9.4416576	4394	10.5583424	36169.490	57	3	2876.900	9.4589248	4757	5	2767.556	9.4420965	4385	10.5579035	36132.957	56	5	2880.050	9.4594001	4753	7	2770.352	9.4425349	4379	10.5574651	36096.501	55	7	2883.201	9.4598749	4748
6	2773.147	9.4429728	4372	10.5570272	36060.121	54	6	2886.352	9.4603492	4743	9	2777.941	9.4434103	4365	10.5565897	36023.818	53	9	2889.503	9.4608232	4740	11	2780.736	9.4438472	4356	10.5561528	35987.590	52	11	2892.655	9.4612967	4735
8	2778.530	9.4442837	4360	10.5557163	35951.439	51	8	2895.808	9.4617697	4730	13	2783.324	9.4447197	4350	10.5552803	35915.363	50	10	2898.961	9.4622423	4726	15	2788.118	9.4451553	4341	10.5548447	35879.362	49	12	2902.114	9.4627145	4721
10	2784.324	9.4447197	4350	10.5548447	35879.362	49	10	2905.268	9.4631863	4718	17	2803.875	9.4477586	4323	10.5544096	35843.437	48	12	2905.268	9.4631863	4718	19	2808.667	9.4481939	4317	10.5539750	35807.586	47	13	2908.423	9.4636576	4713
11	2789.911	9.4455904	4351	10.5539750	35807.586	47	11	2908.423	9.4636576	4713	14	2812.551	9.4490540	4313	10.5535403	35771.810	46	13	2912.578	9.4641285	4709	16	2817.345	9.4494849	4307	10.5531053	35736.108	45	14	2917.473	9.4645990	4705
13	2792.704	9.4460250	4346	10.5531053	35736.108	45	13	2917.473	9.4645990	4705	15	2821.542	9.4499153	4304	10.5526741	35700.481	44	15	2921.790	9.4650690	4700	17	2826.337	9.4503452	4295	10.5522444	35664.928	43	16	2926.114	9.4655386	4696
14	2795.497	9.4464591	4341	10.5522444	35664.928	43	14	2926.114	9.4655386	4696	16	2831.339	9.4507747	4290	10.5518091	35629.448	42	16	2930.999	9.4660078	4692	18	2836.134	9.4512037	4285	10.5513773	35594.042	41	17	2935.821	9.4664765	4687
15	2798.290	9.4468927	4336	10.5513773	35594.042	41	15	2935.821	9.4664765	4687	18	2841.130	9.4516322	4280	10.5509460	35558.710	40	18	2940.683	9.4669448	4683	20	2845.925	9.4520603	4276	10.5505151	35523.450	39	19	2945.483	9.4674137	4679
16	2801.083	9.4473259	4332	10.5505151	35523.450	39	16	2945.483	9.4669448	4683	19	2850.718	9.4524879	4271	10.5500847	35488.263	38	20	2950.339	9.4678802	4675	21	2855.513	9.4529153	4267	10.5500847	35488.263	38	21	2955.190	9.4683493	4671
17	2803.875	9.4477586	4323	10.5500847	35488.263	38	17	2955.190	9.4678802	4675	22	2860.508	9.4533418	4262	10.5496548	35453.149	37	22	2960.190	9.4688139	4666	23	2865.303	9.4537681	4258	10.5492253	35418.107	36	23	2965.047	9.4692801	4662
18	2806.667	9.4481939	4317	10.5492253	35418.107	36	18	2965.047	9.4688139	4662	24	2870.295	9.4541939	4253	10.5487963	35383.138	35	24	2970.000	9.4697459	4658	25	2875.089	9.4546192	4249	10.5483678	35348.240	34	25	2974.857	9.4702112	4653
19	2809.459	9.4486227	4317	10.5483678	35348.240	34	19	2974.857	9.4697459	4658	26	2880.083	9.4550441	4244	10.5479397	35313.414	33	26	2979.713	9.4706762	4649	27	2884.877	9.4554686	4240	10.5475121	35278.660	32	27	2984.570	9.4711407	4645
20	2812.251	9.4490540	4309	10.5475121	35278.660	32	20	2984.570	9.4692801	4662	28	2889.667	9.4558927	4237	10.5470849	35243.977	31	28	2989.427	9.4716040	4641	29	2894.461	9.4563171	4233	10.5466582	35209.365	30	29	2994.284	9.4720685	4637
21	2815.042	9.4494849	4304	10.5466582	35209.365	30	21	2994.284	9.4692801	4662	30	2899.459	9.4567392	4229	10.5462319	35174.824	29	30	2999.144	9.4725318	4633	31	2904.253	9.4571618	4225	10.5458061	35140.354	28	31	3004.011	9.4729947	4629
22	2817.833	9.4499153	4304	10.5458061	35140.354	28	22	3004.011	9.4692801	4662	32	2909.047	9.4575849	4221	10.5453808	35105.954	27	32	3008.870	9.4734571	4625	33	2913.841	9.4580058	4217	10.5449559	35071.625	26	33	3013.727	9.4739192	4621
23	2820.624	9.4503452	4295	10.5449559	35071.625	26	23	3013.727	9.4692801	4662	33	2918.636	9.4584211	4213	10.5445314	35037.365	25	33	3018.584	9.4743808	4617	34	2923.430	9.4588464	4209	10.5441074	35003.175	24	34	3023.442	9.4748421	4613
24	2823.415	9.4507747	4290	10.5441074	35003.175	24	24	3023.442	9.4692801	4662	34	2928.225	9.4588464	4209	10.5436839	34969.055	23	34	3028.300	9.4753029	4609	35	2928.019	9.4592688	4205	10.5432608	34934.804	22	35	3033.158	9.4757633	4605
25	2826.205	9.4512037	4285	10.5432608	34934.804	22	25	3033.158	9.4692801	4662	35	2933.013	9.4592688	4201	10.5428382	34901.023	21	35	3037.917	9.4762233	4601	36	2937.807	9.4596912	4197	10.5424160	34867.110	20	36	3042.775	9.4766829	4597
26	2828.995	9.4516322	4280	10.5424160	34867.110	20	26	3042.775	9.4692801	4662	36	2942.597	9.4596912	4193	10.5419942	34833.267	19	36	3047.633	9.4771421	4593	37	2947.391	9.4601079	4189	10.5415729	34799.492	18	37	3052.491	9.4776009	4589
27	2831.785	9.4520603	4276	10.5415729	34799.492	18	27	3052.491	9.4692801	4662	37	2952.386	9.4601079	4185	10.5411520	34765.785	17	37	3057.350	9.4780592	4585	38	2957.179	9.4605246	4181	10.5407316	34732.146	16	38	3062.208	9.4785172	4581
28	2834.575	9.4524879	4271	10.5407316	34732.146	16	28	3062.208	9.4692801	4662	38	2962.173	9.4605246	4177	10.5403116	34698.576	15	38	3067.067	9.4789748	4577	39	2966.967	9.4609413	4173	10.5400912	34664.928	14	39	3071.925	9.4794319	4573
29	2837.364	9.4529151	4267	10.5400912	34664.928	14	29	3071.925	9.4692801	4662	39	2971.962	9.4609413	4169	10.5396710	34631.637	13	39	3076.783	9.4798887	4569	40	2976.757	9.4613580	4165	10.5392506	34598.144	12	40	3081.641	9.4803451	4565
30	2840.153	9.4533418	4262	10.5392506	34598.144	12	30	3081.641	9.4692801	4662	40	2981.747	9.4613580	4161	10.5388308	34564.969	11	40	3086.499	9.4808011	4561	41	2986.541	9.4617747	4157	10.5384104	34531.797	10	41	3091.357	9.4812566	4557
31	2842.942	9.4537681	4258	10.5384104	34531.797	10	31	3091.357	9.4692801	4662	41	2991.732	9.4617747	4153	10.5379908	34498.558	9	41	3096.215	9.4817118	4553	42	2996.526	9.4621904	4149	10.5375704	34465.346	8	42	3101.073	9.4821666	4549
32	2845.731	9.4541939	4253	10.5379908	34498.558	9	32	3101.073	9.4692801	4662	42	3001.717	9.4621904	4145	10.5371504	34465.346	7	42	3105.931	9.4826210	4545	43	3006.511	9.4626061	4141	10.5367300	34432.134	6	43	3110.789	9.4830750	4541
33	2848.520	9.4546192	4249	10.5367300	34432.134	6	33	3110.789	9.4692801	4662	43	3011.702	9.4626061	4137	10.5363096	34399.465	5	43	3115.647	9.4835286	4537	44	3016.496	9.4630216	4133	10.5358892	34366.253	4	44	3120.505	9.4839818	4533
34	2851.308	9.4550441	4244	10.5358892	34399.465	5	34	3120.505	9.4692801	4662	44	3021.687	9.4630216	4129	10.5354688	34366.253	3	44	3125.363	9.4844346	4529	45	3026.481	9.4634371	4125	10.5350484	34333.041	2	45	3130.221	9.4848870	4525
35	2854.096	9.4554686	4240	10.5350484	34366.253	3	35	3130.221	9.4692801	4662	45	3031.670	9.4634371	4121	10.5346480	34333.041	1	45	3135.079	9.4853402	4521	46	3036.464	9.4638526	4117	10.5342276	34300.829	0	46	3139.937	9.4857926	4517
36	2856.884	9.4558927	4237	10.5342276	34300.829	0	36	3139.937	9.4692801	4662	46	3041.659	9.4638526	4113	10.5338272	34267.617	0	46	3144.795	9.4862449	4513	47	3046.453	9.4642681	4109	10.5334068	34234.605	0	47	3149.653	9.4866973	4509
37	2859.671	9.4563171	4233	10.5334068	34267.617	0	37	3149.653	9.4692801	4662	47	3051.648	9.4642681	4105	10.5330068	34234.605	0	47	3154.511	9.4871496	4505	48	3056.447	9.4646836	4101	10.5325864	34201.593	0	48	3159.469	9.4876019	4501
38	2862.458	9.4567392	4229	10.5325864	34201.593	0	38	3159.469	9.4692801	4662	48	3061.637	9.4646836	4097	10.5321860	34168.581	0	48	3164.327	9.4880542	4501	49	3066.441	9.4650991	4093	10.5317856	34135.569	0	49	3169.285	9.4885065	4497
39	2865.245	9.4571618	4225	10.5317856	34168.581	0	39	3169.285	9.4692801	4662	49	3071.626	9.4650991	4089	10.5313852	34135.569	0	49	3174.143	9.4889588												

16 N. Sec.			L. Sec.			D			
10.5425036	34874.144	60	0 10402.994	10.0171584	362	9.9828416	9612.617	60	
10.5420270	34835.896	59	1 10403.863	10.0171946	363	9.9828054	9611.815	59	
10.5415509	34797.726	58	2 10404.732	10.0172309	364	9.9827691	9611.012	58	
10.5410752	34759.632	57	3 10405.602	10.0172672	365	9.9827328	9610.208	57	
10.5405999	34721.616	56	4 10406.473	10.0173036	366	9.9826964	9609.403	56	
10.5401251	34683.676	55	5 10407.346	10.0173400	367	9.9826600	9608.598	55	
10.5396508	34645.813	54	6 10408.219	10.0173764	368	9.9826236	9607.792	54	
10.5391768	34608.026	53	7 10409.094	10.0174129	369	9.9825871	9606.985	53	
10.5387033	34570.315	52	8 10409.969	10.0174494	370	9.9825506	9606.177	52	
10.5382303	34532.679	51	9 10410.845	10.0174860	371	9.9825140	9605.368	51	
10.5377577	34495.120	50	10 10411.723	10.0175226	372	9.9824774	9604.558	50	
10.5372855	34457.635	49	11 10412.601	10.0175592	373	9.9824408	9603.748	49	
10.5368137	34420.226	48	12 10413.481	10.0175959	374	9.9824041	9602.937	48	
10.5363424	34382.891	47	13 10414.362	10.0176326	375	9.9823674	9602.125	47	
10.5358715	34345.631	46	14 10415.243	10.0176694	376	9.9823306	9601.312	46	
10.5354010	34308.446	45	15 10416.126	10.0177062	377	9.9822939	9600.498	45	
10.5349310	34271.334	44	16 10417.009	10.0177431	378	9.9822569	9599.684	44	
10.5344614	34234.297	43	17 10417.894	10.0177799	379	9.9822201	9598.869	43	
10.5339922	34197.323	42	18 10418.780	10.0178169	380	9.9821831	9598.053	42	
10.5335235	34160.443	41	19 10419.667	10.0178538	381	9.9821462	9597.236	41	
10.5330552	34123.626	40	20 10420.554	10.0178908	382	9.9821092	9596.418	40	
10.5325873	34086.882	39	21 10421.443	10.0179279	383	9.9820721	9595.600	39	
10.5321198	34050.210	38	22 10422.333	10.0179649	384	9.9820351	9594.781	38	
10.5316527	34013.612	37	23 10423.224	10.0180021	385	9.9819979	9593.961	37	
10.5311861	33977.085	36	24 10424.116	10.0180392	386	9.9819608	9593.140	36	
10.5307199	33940.631	35	25 10425.009	10.0180764	387	9.9819236	9592.318	35	
10.5302541	33904.249	34	26 10425.903	10.0181137	388	9.9818863	9591.495	34	
10.5297888	33867.938	33	27 10426.798	10.0181510	389	9.9818490	9590.672	33	
10.5293238	33831.699	32	28 10427.694	10.0181883	390	9.9818117	9589.848	32	
10.5288593	33795.531	31	29 10428.591	10.0182256	391	9.9817744	9589.023	31	
10.5283952	33759.434	30	30 10429.489	10.0182630	392	9.9817370	9588.197	30	
10.5279315	33723.408	29	31 10430.388	10.0183005	393	9.9816995	9587.370	29	
10.5274682	33687.453	28	32 10431.289	10.0183380	394	9.9816620	9586.543	28	
10.5270053	33651.568	27	33 10432.190	10.0183755	395	9.9816245	9585.715	27	
10.5265428	33615.753	26	34 10433.092	10.0184130	396	9.9815870	9584.886	26	
10.5260805	33579.008	25	35 10433.995	10.0184506	397	9.9815494	9584.056	25	
10.5256192	33544.333	24	36 10434.900	10.0184883	398	9.9815117	9583.225	24	
10.5251579	33508.728	23	37 10435.805	10.0185260	399	9.9814740	9582.394	23	
10.5246971	33473.191	22	38 10436.712	10.0185637	400	9.9814363	9581.562	22	
10.5242367	33437.724	21	39 10437.619	10.0186014	401	9.9813986	9580.729	21	
10.5237767	33402.326	20	40 10438.528	10.0186392	402	9.9813608	9579.895	20	
10.5233171	33366.997	19	41 10439.437	10.0186771	403	9.9813229	9579.060	19	
10.5228579	33331.736	18	42 10440.348	10.0187150	404	9.9812850	9578.225	18	
10.5223991	33296.543	17	43 10441.259	10.0187529	405	9.9812471	9577.389	17	
10.5219408	33261.419	16	44 10442.172	10.0187909	406	9.9812091	9576.552	16	
10.5214828	33226.362	15	45 10443.086	10.0188289	407	9.9811711	9575.714	15	
10.5210252	33191.373	14	46 10444.001	10.0188669	408	9.9811331	9574.875	14	
10.5205681	33156.452	13	47 10444.917	10.0189050	409	9.9810950	9574.035	13	
10.5201113	33121.598	12	48 10445.833	10.0189431	410	9.9810569	9573.195	12	
10.5196549	33086.811	11	49 10446.751	10.0189813	411	9.9810187	9572.354	11	
10.5191989	33052.091	10	50 10447.670	10.0190195	412	9.9809805	9571.512	10	
10.5187438	33017.438	9	51 10448.590	10.0190577	413	9.9809423	9570.665	9	
10.5182882	32982.851	8	52 10449.511	10.0190960	414	9.9809040	9569.815	8	
10.5178334	32948.330	7	53 10450.433	10.0191343	415	9.9808657	9568.961	7	
10.5173790	32913.876	6	54 10451.357	10.0191727	416	9.9808273	9568.106	6	
10.5169250	32879.487	5	55 10452.281	10.0192111	417	9.9807889	9567.250	5	
10.5164714	32845.164	4	56 10453.206	10.0192495	418	9.9807505	9566.393	4	
10.5160182	32810.907	3	57 10454.132	10.0192880	419	9.9807120	9565.535	3	
10.5155654	32776.715	2	58 10455.060	10.0193265	420	9.9806735	9564.674	2	
10.5151130	32742.588	1	59 10455.988	10.0193651	421	9.9806349	9563.811	1	
10.5146610	32708.526	0	60 10456.918	10.0194037	422	9.9805963	9562.948	0	
L. Tan.	N. Tan.	73				D	L. Sin.	N. Sin.	73

17	N. Sin.	L. Sin.	Diff.			17	N. Tan.	L. Tan.	Diff.
0	2923.717	9.4659353	4130	10.5340647	34203.036	60	03057.307	9.4853390	4517
1	2926.499	9.4663483	4126	10.5336517	34170.526	59	13060.488	9.4857907	4512
2	2929.280	9.4667609	4121	10.5332391	34138.080	58	23063.669	9.4862419	4509
3	2932.061	9.4671730	4118	10.5328270	34105.699	57	33066.851	9.4866928	4504
4	2934.842	9.4675848	4112	10.5324152	34073.382	56	43070.034	9.4871433	4500
5	2937.623	9.4679966	4109	10.5320040	34041.130	55	53073.218	9.4875935	4497
6	2940.403	9.4684069	4104	10.5315931	34008.941	54	63076.402	9.4880430	4494
7	2943.183	9.4688173	4100	10.5311827	33976.816	53	73079.586	9.4884924	4489
8	2945.963	9.4692273	4096	10.5307727	33944.754	52	83082.771	9.4889413	4485
9	2948.743	9.4696369	4092	10.5303631	33912.755	51	93085.957	9.4893898	4482
10	2951.522	9.4700461	4087	10.5299539	33880.820	50	103089.143	9.4898385	4478
11	2954.301	9.4704548	4083	10.5295452	33848.948	49	113092.330	9.4902875	4474
12	2957.080	9.4708631	4079	10.5291369	33817.138	48	123095.517	9.4907363	4470
13	2959.859	9.4712710	4075	10.5287290	33785.391	47	133098.705	9.4911850	4467
14	2962.638	9.4716788	4071	10.5283215	33753.707	46	143101.893	9.4916339	4462
15	2965.416	9.4720865	4066	10.5279144	33722.084	45	153105.082	9.4920827	4459
16	2968.194	9.4724922	4063	10.5275078	33690.524	44	163108.272	9.4925310	4455
17	2970.971	9.4728985	4058	10.5271015	33659.026	43	173111.462	9.4929795	4451
18	2973.749	9.4733043	4054	10.5266957	33627.589	42	183114.653	9.4934277	4448
19	2976.526	9.4737077	4049	10.5262903	33596.214	41	193117.844	9.4938755	4443
20	2979.303	9.4741146	4046	10.5258854	33564.900	40	203121.036	9.4943238	4441
21	2982.079	9.4745172	4042	10.5254808	33533.647	39	213124.229	9.4947719	4436
22	2984.856	9.4749234	4037	10.5250766	33502.455	38	223127.422	9.4952195	4433
23	2987.632	9.4753271	4033	10.5246729	33471.324	37	233130.616	9.4956672	4429
24	2990.408	9.4757304	4029	10.5242696	33440.254	36	243133.810	9.4960727	4425
25	2993.184	9.4761334	4025	10.5238666	33409.244	35	253137.005	9.4965152	4422
26	2995.959	9.4765359	4021	10.5234641	33378.294	34	263140.200	9.4969575	4417
27	2998.734	9.4769380	4016	10.5230620	33347.405	33	273143.396	9.4973991	4415
28	3001.509	9.4773396	4013	10.5226604	33316.575	32	283146.593	9.4978406	4410
29	3004.284	9.4777409	4009	10.5222591	33285.805	31	293149.790	9.4982823	4407
30	3007.058	9.4781418	4005	10.5218582	33255.095	30	303152.988	9.4987236	4403
31	3009.832	9.4785423	4000	10.5214577	33224.444	29	313156.186	9.4991626	4400
32	3012.606	9.4789423	3997	10.5210577	33193.853	28	323159.385	9.4996022	4396
33	3015.380	9.4793420	3992	10.5206580	33163.320	27	333162.585	9.5000426	4392
34	3018.153	9.4797412	3989	10.5202588	33132.847	26	343165.785	9.5004816	4389
35	3020.926	9.4801401	3984	10.5198599	33102.432	25	353168.986	9.5009209	4385
36	3023.699	9.4805385	3981	10.5194615	33072.076	24	363172.187	9.5013588	4381
37	3026.471	9.4809366	3976	10.5190634	33041.778	23	373175.389	9.5017969	4378
38	3029.244	9.4813342	3973	10.5186658	33011.539	22	383178.591	9.5022347	4374
39	3032.016	9.4817315	3968	10.5182685	32981.357	21	393181.794	9.5026721	4370
40	3034.788	9.4821283	3965	10.5178717	32951.234	20	403184.998	9.5031092	4367
41	3037.559	9.4825248	3960	10.5174752	32921.168	19	413188.202	9.5035459	4363
42	3040.331	9.4829208	3957	10.5170792	32891.160	18	423191.407	9.5039822	4360
43	3043.102	9.4833165	3952	10.5166835	32861.209	17	433194.613	9.5044182	4356
44	3045.872	9.4837117	3949	10.5162883	32831.316	16	443197.819	9.5048538	4353
45	3048.643	9.4841066	3944	10.5158934	32801.479	15	453201.025	9.5052891	4349
46	3051.413	9.4845010	3941	10.5154990	32771.700	14	463204.232	9.5057240	4346
47	3054.183	9.4848951	3937	10.5151049	32741.977	13	473207.440	9.5061586	4342
48	3056.953	9.4852888	3932	10.5147112	32712.311	12	483210.649	9.5065928	4339
49	3059.723	9.4856820	3929	10.5143180	32682.702	11	493213.858	9.5070267	4335
50	3062.492	9.4860749	3925	10.5139251	32653.149	10	503217.067	9.5074602	4331
51	3065.261	9.4864674	3921	10.5135326	32623.652	9	513220.277	9.5078933	4328
52	3068.029	9.4868595	3917	10.5131405	32594.211	8	523223.488	9.5083261	4325
53	3070.798	9.4872511	3914	10.5127488	32564.825	7	533226.700	9.5087586	4321
54	3073.566	9.4876426	3909	10.5123574	32535.496	6	543229.912	9.5091907	4317
55	3076.334	9.4880335	3905	10.5119665	32506.222	5	553233.125	9.5096224	4315
56	3079.102	9.4884240	3902	10.5115760	32477.003	4	563236.338	9.5100539	4310
57	3081.869	9.4888142	3898	10.5111858	32447.840	3	573239.552	9.5104849	4307
58	3084.631	9.4892040	3894	10.5107960	32418.732	2	583242.766	9.5109156	4304
59	3087.402	9.4895934	3890	10.5104066	32389.678	1	593245.981	9.5113460	4300
60	3090.170	9.4899824		10.5100176	32360.680	0	603249.197	9.5117760	
			Diff.	L. Sec.	N. Sec.	172			Diff.

17 N. Sec.			L. Sec.			D.		
10.5146610	32708.526	60	0	10456.918	10.0194037	9.9805963	9562.048	60
10.5142093	32674.529	59	1	10457.848	10.0194423	9.9805177	9562.197	59
10.5137581	32640.596	58	2	10458.780	10.0194810	9.9805190	9561.345	58
10.5133072	32606.728	57	3	10459.712	10.0195197	9.9804803	9560.492	57
10.5128567	32572.924	56	4	10460.646	10.0195585	9.9804415	9559.639	56
10.5124067	32539.184	55	5	10461.581	10.0195973	9.9804027	9558.783	55
10.5119570	32505.508	54	6	10462.516	10.0196361	9.9803639	9557.930	54
10.5115076	32471.895	53	7	10463.453	10.0196750	9.9803250	9557.074	53
10.5110587	32438.346	52	8	10464.391	10.0197140	9.9802860	9556.217	52
10.5106102	32404.860	51	9	10465.330	10.0197529	9.9802471	9555.360	51
10.5101620	32371.438	50	10	10466.270	10.0197919	9.9802081	9554.502	50
10.5097142	32338.078	49	11	10467.211	10.0198310	9.9801690	9553.643	49
10.5092668	32304.780	48	12	10468.153	10.0198701	9.9801299	9552.783	48
10.5088198	32271.546	47	13	10469.096	10.0199092	9.9800908	9551.922	47
10.5083731	32238.373	46	14	10470.040	10.0199484	9.9800516	9551.061	46
10.5079269	32205.263	45	15	10470.986	10.0199876	9.9800124	9550.199	45
10.5074810	32172.215	44	16	10471.932	10.0200268	9.9799732	9549.336	44
10.5070354	32139.228	43	17	10472.879	10.0200661	9.9799339	9548.472	43
10.5065903	32106.304	42	18	10473.828	10.0201054	9.9798946	9547.607	42
10.5061455	32073.440	41	19	10474.777	10.0201448	9.9798552	9546.742	41
10.5057012	32040.638	40	20	10475.728	10.0201842	9.9798158	9545.876	40
10.5052571	32007.897	39	21	10476.679	10.0202236	9.9797764	9545.009	39
10.5048135	31975.217	38	22	10477.632	10.0202631	9.9797369	9544.141	38
10.5043702	31942.598	37	23	10478.586	10.0203027	9.9796973	9543.272	37
10.5039273	31910.039	36	24	10479.540	10.0203422	9.9796578	9542.403	36
10.5034848	31877.540	35	25	10480.496	10.0203818	9.9796182	9541.533	35
10.5030426	31845.102	34	26	10481.453	10.0204215	9.9795785	9540.662	34
10.5026009	31812.724	33	27	10482.411	10.0204612	9.9795388	9539.790	33
10.5021594	31780.406	32	28	10483.370	10.0205009	9.9794991	9538.917	32
10.5017184	31748.147	31	29	10484.330	10.0205407	9.9794593	9538.043	31
10.5012777	31715.948	30	30	10485.291	10.0205805	9.9794195	9537.169	30
10.5008374	31683.808	29	31	10486.253	10.0206204	9.9793796	9536.294	29
10.5003974	31651.728	28	32	10487.217	10.0206602	9.9793398	9535.418	28
10.4999578	31619.706	27	33	10488.181	10.0207002	9.9792998	9534.541	27
10.4995185	31587.744	26	34	10489.146	10.0207402	9.9792599	9533.664	26
10.4990797	31555.840	25	35	10490.113	10.0207802	9.9792198	9532.786	25
10.4986412	31523.994	24	36	10491.080	10.0208202	9.9791798	9531.907	24
10.4982031	31492.207	23	37	10492.049	10.0208602	9.9791397	9531.027	23
10.4977653	31460.478	22	38	10493.019	10.0209004	9.9790996	9530.146	22
10.4973279	31428.807	21	39	10493.989	10.0209406	9.9790594	9529.264	21
10.4968908	31397.194	20	40	10494.961	10.0209808	9.9790192	9528.382	20
10.4964541	31365.639	19	41	10495.934	10.0210211	9.9789789	9527.499	19
10.4960178	31334.141	18	42	10496.908	10.0210614	9.9789386	9526.615	18
10.4955818	31302.701	17	43	10497.883	10.0211017	9.9788983	9525.730	17
10.4951461	31271.317	16	44	10498.859	10.0211421	9.9788579	9524.844	16
10.4947109	31239.991	15	45	10499.836	10.0211825	9.9788175	9523.958	15
10.4942760	31208.722	14	46	10500.815	10.0212230	9.9787770	9523.071	14
10.4938414	31177.509	13	47	10501.794	10.0212635	9.9787365	9522.183	13
10.4934072	31146.353	12	48	10502.774	10.0213040	9.9786960	9521.294	12
10.4929733	31115.254	11	49	10503.756	10.0213446	9.9786554	9520.404	11
10.4925398	31084.210	10	50	10504.738	10.0213852	9.9786148	9519.514	10
10.4921067	31053.223	9	51	10505.722	10.0214259	9.9785741	9518.623	9
10.4916739	31022.291	8	52	10506.706	10.0214666	9.9785334	9517.731	8
10.4912414	30991.416	7	53	10507.692	10.0215073	9.9784927	9516.838	7
10.4908093	30960.596	6	54	10508.679	10.0215481	9.9784519	9515.944	6
10.4903776	30929.831	5	55	10509.667	10.0215889	9.9784111	9515.049	5
10.4899461	30899.122	4	56	10510.656	10.0216298	9.9783702	9514.154	4
10.4895151	30868.468	3	57	10511.646	10.0216707	9.9783293	9513.258	3
10.4890844	30837.869	2	58	10512.637	10.0217117	9.9782883	9512.361	2
10.4886540	30807.325	1	59	10513.629	10.0217526	9.9782474	9511.463	1
10.4882240	30776.835	0	60	10514.622	10.0217937	9.9782063	9510.565	0
L. Tan.	N. Tan.	72				L. Sin.	N. Sin	72

18	N. Sin.	L. Sin.	Dir.				18	N. Sin.	L. Sin.	Dir.
0	3090.170	9.4899824		10.5100176	32360.680	60	0	3249.197	9.5117760	
1	3092.936	9.4903710	3886	10.5096290	32331.736	59	1	3252.413	9.5122057	4297
2	3095.702	9.4907592	3882	10.5092408	32302.846	58	2	3255.630	9.5126351	4294
3	3098.468	9.4911471	3879	10.5088529	32274.011	57	3	3258.848	9.5130641	4290
4	3101.234	9.4915345	3874	10.5084655	32245.230	56	4	3262.066	9.5134927	4286
5	3103.999	9.4919216	3871	10.5080784	32216.503	55	5	3265.285	9.5139210	4283
6	3106.764	9.4923083	3867	10.5076917	32187.830	54	6	3268.504	9.5143490	4280
7	3109.529	9.4926946	3863	10.5073054	32159.210	53	7	3271.724	9.5147766	4276
8	3112.294	9.4930806	3860	10.5069194	32130.644	52	8	3274.944	9.5152039	4273
9	3115.058	9.4934661	3855	10.5065339	32102.132	51	9	3278.165	9.5156309	4270
10	3117.822	9.4938513	3852	10.5061487	32073.673	50	10	3281.387	9.5160575	4266
11	3120.586	9.4942361	3848	10.5057639	32045.266	49	11	3284.610	9.5164838	4263
12	3123.349	9.4946205	3844	10.5053795	32016.913	48	12	3287.832	9.5169097	4259
13	3126.112	9.4950046	3841	10.5049954	31988.613	47	13	3291.056	9.5173353	4256
14	3128.875	9.4953883	3837	10.5046117	31960.365	46	14	3294.280	9.5177606	4253
15	3131.638	9.4957716	3833	10.5042284	31932.170	45	15	3297.505	9.5181855	4249
16	3134.400	9.4961545	3829	10.5038455	31904.028	44	16	3300.731	9.5186101	4246
17	3137.163	9.4965370	3825	10.5034630	31875.937	43	17	3303.957	9.5190344	4243
18	3139.925	9.4969192	3822	10.5030808	31847.899	42	18	3307.184	9.5194583	4239
19	3142.686	9.4973010	3818	10.5026990	31819.913	41	19	3310.411	9.5198819	4236
20	3145.448	9.4976824	3814	10.5023176	31791.978	40	20	3313.639	9.5203052	4233
21	3148.209	9.4980635	3811	10.5019365	31764.095	39	21	3316.868	9.5207282	4230
22	3150.969	9.4984442	3807	10.5015558	31736.264	38	22	3320.097	9.5211508	4226
23	3153.730	9.4988245	3803	10.5011755	31708.484	37	23	3323.327	9.5215730	4223
24	3156.490	9.4992045	3800	10.5007955	31680.756	36	24	3326.557	9.5219950	4220
25	3159.250	9.4995840	3795	10.5004160	31653.078	35	25	3329.788	9.5224166	4216
26	3162.010	9.4999633	3792	10.5000367	31625.452	34	26	3333.020	9.5228379	4213
27	3164.770	9.5003421	3788	10.4996579	31597.876	33	27	3336.252	9.5232589	4210
28	3167.529	9.5007206	3785	10.4992794	31570.351	32	28	3339.485	9.5236795	4206
29	3170.288	9.5010987	3781	10.4989013	31542.877	31	29	3342.719	9.5240999	4203
30	3173.047	9.5014764	3777	10.4985236	31515.453	30	30	3345.953	9.5245199	4200
31	3175.805	9.5018538	3774	10.4981462	31488.079	29	31	3349.188	9.5249395	4196
32	3178.563	9.5022308	3770	10.4977692	31460.756	28	32	3352.424	9.5253589	4194
33	3181.321	9.5026075	3767	10.4973925	31433.483	27	33	3355.660	9.5257779	4190
34	3184.079	9.5029838	3763	10.4970162	31406.259	26	34	3358.897	9.5261966	4187
35	3186.836	9.5033597	3759	10.4966403	31379.086	25	35	3362.134	9.5266150	4184
36	3189.593	9.5037353	3756	10.4962647	31351.962	24	36	3365.372	9.5270331	4181
37	3192.350	9.5041105	3752	10.4958895	31324.887	23	37	3368.611	9.5274508	4177
38	3195.106	9.5044853	3748	10.4955147	31297.862	22	38	3371.850	9.5278682	4174
39	3197.863	9.5048598	3745	10.4951402	31270.886	21	39	3375.090	9.5282853	4171
40	3200.619	9.5052339	3741	10.4947661	31243.959	20	40	3378.330	9.5287021	4168
41	3203.374	9.5056077	3738	10.4943923	31217.081	19	41	3381.571	9.5291186	4165
42	3206.130	9.5059811	3734	10.4940189	31190.252	18	42	3384.813	9.5295347	4161
43	3208.885	9.5063542	3731	10.4936458	31163.472	17	43	3388.056	9.5299505	4158
44	3211.640	9.5067269	3727	10.4932731	31136.740	16	44	3391.299	9.5303661	4156
45	3214.395	9.5070992	3723	10.4929008	31110.057	15	45	3394.543	9.5307813	4152
46	3217.149	9.5074712	3720	10.4925288	31083.422	14	46	3397.787	9.5311961	4148
47	3219.903	9.5078428	3716	10.4921572	31056.835	13	47	3401.032	9.5316107	4146
48	3222.657	9.5082141	3713	10.4917859	31030.296	12	48	3404.278	9.5320250	4143
49	3225.410	9.5085850	3709	10.4914150	31003.805	11	49	3407.524	9.5324389	4139
50	3228.164	9.5089556	3706	10.4910444	30977.363	10	50	3410.771	9.5328526	4137
51	3230.917	9.5093258	3702	10.4906742	30950.967	9	51	3414.019	9.5332659	4133
52	3233.670	9.5096956	3698	10.4903044	30924.620	8	52	3417.267	9.5336789	4130
53	3236.422	9.5100651	3695	10.4899349	30898.319	7	53	3420.516	9.5340916	4127
54	3239.174	9.5104343	3692	10.4895657	30872.066	6	54	3423.765	9.5345040	4124
55	3241.926	9.5108031	3688	10.4891969	30845.860	5	55	3427.015	9.5349161	4121
56	3244.678	9.5111716	3685	10.4888284	30819.702	4	56	3430.266	9.5353278	4117
57	3247.429	9.5115397	3681	10.4884603	30793.590	3	57	3433.518	9.5357393	4115
58	3250.180	9.5119074	3677	10.4880926	30767.525	2	58	3436.770	9.5361505	4112
59	3252.931	9.5122749	3675	10.4877251	30741.507	1	59	3440.023	9.5365613	4108
60	3255.682	9.5126419	3670	10.4873581	30715.535	0	60	3443.276	9.5369719	4106
Dif.				L. Sec.	N. Sec.	171	Dif.			

			18 N. Sec.			L. Sec.			D.		
10.4882240	30776.835	60	0	10514.622	10.0217937	9.9782063	9510.566	60			
10.4877943	30746.400	59	1	10515.617	10.0218347	9.9781653	9509.666	59			
10.4873649	30716.020	58	2	10516.612	10.0218759	9.9781241	9508.766	58			
10.4869359	30685.693	57	3	10517.608	10.0219170	9.9780830	9507.866	57			
10.4865073	30655.421	56	4	10518.606	10.0219582	9.9780418	9506.966	56			
10.4860790	30625.203	55	5	10519.605	10.0219994	9.9780006	9506.066	55			
10.4856510	30595.028	54	6	10520.604	10.0220407	9.9779593	9505.157	54			
10.4852234	30564.928	53	7	10521.605	10.0220820	9.9779180	9504.253	53			
10.4847961	30534.870	52	8	10522.607	10.0221234	9.9778766	9503.348	52			
10.4843691	30504.866	51	9	10523.610	10.0221647	9.9778353	9502.442	51			
10.4839425	30474.915	50	10	10524.614	10.0222062	9.9777938	9501.536	50			
10.4835162	30445.018	49	11	10525.619	10.0222477	9.9777523	9500.629	49			
10.4830903	30415.172	48	12	10526.625	10.0222892	9.9777108	9499.721	48			
10.4826647	30385.381	47	13	10527.633	10.0223307	9.9776693	9498.812	47			
10.4822394	30355.641	46	14	10528.641	10.0223723	9.9776277	9497.902	46			
10.4818145	30325.954	45	15	10529.651	10.0224140	9.9775860	9496.991	45			
10.4813899	30296.320	44	16	10530.661	10.0224556	9.9775444	9496.080	44			
10.4809656	30266.737	43	17	10531.673	10.0224974	9.9775026	9495.168	43			
10.4805417	30237.207	42	18	10532.686	10.0225391	9.9774609	9494.255	42			
10.4801181	30207.728	41	19	10533.699	10.0225809	9.9774191	9493.341	41			
10.4796948	30178.301	40	20	10534.714	10.0226228	9.9773772	9492.426	40			
10.4792718	30148.926	39	21	10535.730	10.0226646	9.9773354	9491.511	39			
10.4788492	30119.602	38	22	10536.747	10.0227066	9.9772934	9490.595	38			
10.4784270	30090.330	37	23	10537.765	10.0227485	9.9772515	9489.678	37			
10.4780050	30061.109	36	24	10538.785	10.0227905	9.9772095	9488.760	36			
10.4775834	30031.939	35	25	10539.805	10.0228326	9.9771674	9487.841	35			
10.4771621	30002.820	34	26	10540.826	10.0228747	9.9771253	9486.922	34			
10.4767411	29973.751	33	27	10541.849	10.0229168	9.9770832	9486.002	33			
10.4763205	29944.734	32	28	10542.873	10.0229590	9.9770410	9485.081	32			
10.4759001	29915.766	31	29	10543.897	10.0230012	9.9769988	9484.159	31			
10.4754801	29886.850	30	30	10544.923	10.0230434	9.9769566	9483.236	30			
10.4750605	29857.983	29	31	10545.950	10.0230857	9.9769143	9482.313	29			
10.4746411	29829.166	28	32	10546.978	10.0231280	9.9768720	9481.389	28			
10.4742221	29800.400	27	33	10548.007	10.0231704	9.9768296	9480.464	27			
10.4738034	29771.613	26	34	10549.037	10.0232128	9.9767872	9479.538	26			
10.4733850	29743.016	25	35	10550.068	10.0232553	9.9767447	9478.611	25			
10.4729669	29714.399	24	36	10551.101	10.0232978	9.9767022	9477.684	24			
10.4725492	29685.831	23	37	10552.134	10.0233403	9.9766597	9476.756	23			
10.4721318	29657.312	22	38	10553.169	10.0233829	9.9766171	9475.827	22			
10.4717147	29628.842	21	39	10554.204	10.0234255	9.9765745	9474.897	21			
10.4712979	29600.422	20	40	10555.241	10.0234682	9.9765318	9473.966	20			
10.4708814	29572.050	19	41	10556.279	10.0235109	9.9764891	9473.035	19			
10.4704653	29543.727	18	42	10557.318	10.0235536	9.9764464	9472.103	18			
10.4700495	29515.453	17	43	10558.358	10.0235963	9.9764036	9471.170	17			
10.4696339	29487.227	16	44	10559.399	10.0236392	9.9763608	9470.236	16			
10.4692187	29459.050	15	45	10560.441	10.0236821	9.9763179	9469.301	15			
10.4688039	29430.921	14	46	10561.485	10.0237250	9.9762750	9468.366	14			
10.4683893	29402.840	13	47	10562.529	10.0237679	9.9762321	9467.430	13			
10.4679750	29374.807	12	48	10563.575	10.0238109	9.9761891	9466.493	12			
10.4675611	29346.822	11	49	10564.621	10.0238539	9.9761461	9465.555	11			
10.4671474	29318.885	10	50	10565.669	10.0238970	9.9761030	9464.616	10			
10.4667341	29290.995	9	51	10566.718	10.0239401	9.9760599	9463.676	9			
10.4663211	29263.152	8	52	10567.768	10.0239833	9.9760167	9462.736	8			
10.4659084	29235.358	7	53	10568.819	10.0240264	9.9759736	9461.795	7			
10.4654960	29207.610	6	54	10569.871	10.0240697	9.9759303	9460.853	6			
10.4650839	29179.909	5	55	10570.924	10.0241130	9.9758870	9459.910	5			
10.4646722	29152.256	4	56	10571.978	10.0241563	9.9758437	9458.967	4			
10.4642607	29124.649	3	57	10573.034	10.0241996	9.9758004	9458.023	3			
10.4638495	29097.089	2	58	10574.090	10.0242430	9.9757570	9457.078	2			
10.4634381	29069.576	1	59	10575.148	10.0242865	9.9757135	9456.132	1			
10.4630281	29042.104	0	60	10576.207	10.0243299	9.9756701	9455.185	0			
L. Tan.	N. Tan. 71					D. L. Sin.	N. Sin. 71				

19	N. Sin.	L. Sin.	Dit.			19	N. Tan.	L. Tan.	Dit.
0	3355.581	9.5126419	3667	10.4873481	30715.53560	0	3443.276	9.5369719	4102
1	3258.432	9.5130086	3664	10.4869914	30689.61059	1	3446.530	9.5373821	4099
2	3261.182	9.5133750	3660	10.4866250	30663.73158	2	3449.785	9.5377920	4097
3	3263.931	9.5137410	3657	10.4862590	30637.89857	3	3453.040	9.5382017	4093
4	3266.681	9.5141067	3654	10.4858933	30612.11156	4	3456.296	9.5386110	4090
5	3269.430	9.5144721	3650	10.4855279	30586.37055	5	3459.553	9.5390200	4087
6	3272.179	9.5148371	3646	10.4851629	30560.67554	6	3462.810	9.5394287	4084
7	3274.928	9.5152017	3643	10.4847983	30535.02653	7	3466.068	9.5398371	4082
8	3277.676	9.5155660	3640	10.4844340	30509.42352	8	3469.327	9.5402453	4078
9	3280.424	9.5159300	3636	10.4840700	30483.86451	9	3472.586	9.5406531	4075
10	3283.172	9.5162936	3633	10.4837064	30458.35250	10	3475.846	9.5410606	4072
11	3285.919	9.5166569	3629	10.4833431	30432.88449	11	3479.107	9.5414678	4069
12	3288.666	9.5170198	3626	10.4829802	30407.46248	12	3482.368	9.5418747	4066
13	3291.413	9.5173824	3623	10.4826176	30382.08447	13	3485.630	9.5422813	4064
14	3294.160	9.5177447	3619	10.4822553	30356.75246	14	3488.893	9.5426877	4060
15	3296.906	9.5181066	3616	10.4818934	30331.46445	15	3492.156	9.5430937	4057
16	3299.652	9.5184682	3613	10.4815318	30306.22144	16	3495.420	9.5434994	4054
17	3302.398	9.5188295	3609	10.4811705	30281.02343	17	3498.685	9.5439048	4052
18	3305.144	9.5191904	3606	10.4808096	30255.86842	18	3501.950	9.5443100	4048
19	3307.889	9.5195510	3602	10.4804490	30230.75941	19	3505.216	9.5447148	4045
20	3310.634	9.5199112	3599	10.4800888	30205.69340	20	3508.483	9.5451193	4043
21	3313.379	9.5202711	3596	10.4797289	30180.67239	21	3511.750	9.5455236	4040
22	3316.123	9.5206307	3592	10.4793693	30155.69438	22	3515.018	9.5459276	4036
23	3318.867	9.5209899	3589	10.4790101	30130.76037	23	3518.287	9.5463312	4034
24	3321.611	9.5213488	3586	10.4786512	30105.87036	24	3521.556	9.5467346	4031
25	3324.355	9.5217074	3582	10.4782926	30081.02435	25	3524.826	9.5471377	4028
26	3327.098	9.5220666	3579	10.4779344	30056.22134	26	3528.097	9.5475405	4025
27	3329.841	9.5224255	3576	10.4775765	30031.46233	27	3531.368	9.5479430	4022
28	3332.584	9.5227841	3572	10.4772189	30006.74632	28	3534.640	9.5483452	4019
29	3335.327	9.5231433	3570	10.4768617	29981.97331	29	3537.913	9.5487471	4016
30	3338.069	9.5235023	3565	10.4765047	29957.44330	30	3541.186	9.5491487	4013
31	3340.810	9.5238618	3563	10.4761482	29932.85629	31	3544.460	9.5495500	4011
32	3343.552	9.5242208	3559	10.4757919	29908.21228	32	3547.735	9.5499519	4008
33	3346.293	9.5245800	3556	10.4754360	29883.81117	33	3551.010	9.5503535	4004
34	3349.034	9.5249396	3553	10.4750804	29859.35226	34	3554.286	9.5507552	4002
35	3351.775	9.5252997	3549	10.4747251	29834.93625	35	3557.563	9.5511572	3999
36	3354.516	9.5256598	3546	10.4743702	29810.56324	36	3560.840	9.5515592	3997
37	3357.256	9.5259844	3543	10.4740156	29786.23123	37	3564.118	9.5519621	3993
38	3359.996	9.5263387	3540	10.4736613	29761.94222	38	3567.397	9.5523654	3990
39	3362.735	9.5266927	3536	10.4733073	29737.69521	39	3570.676	9.5527690	3988
40	3365.475	9.5270463	3534	10.4729537	29713.49020	40	3573.956	9.5531725	3985
41	3368.214	9.5273997	3529	10.4726003	29689.32719	41	3577.237	9.5535777	3982
42	3370.953	9.5277526	3527	10.4722474	29665.20518	42	3580.518	9.5539849	3979
43	3373.691	9.5281053	3524	10.4718947	29641.12517	43	3583.800	9.5543938	3977
44	3376.429	9.5284577	3520	10.4715423	29617.08716	44	3587.083	9.5548031	3973
45	3379.167	9.5288099	3517	10.4711903	29593.09015	45	3590.367	9.5552138	3971
46	3381.905	9.5291614	3514	10.4708386	29569.13514	46	3593.651	9.5556259	3968
47	3384.642	9.5295128	3510	10.4704872	29545.22113	47	3596.936	9.5560392	3965
48	3387.379	9.5298639	3508	10.4701362	29521.34812	48	3600.222	9.5564532	3963
49	3390.116	9.5302144	3504	10.4697854	29497.51611	49	3603.508	9.5568685	3959
50	3392.852	9.5305650	3501	10.4694350	29473.72510	50	3606.795	9.5572841	3957
51	3395.589	9.5309151	3498	10.4690849	29449.9759	51	3610.083	9.5577011	3954
52	3398.325	9.5312649	3494	10.4687351	29426.2659	52	3613.371	9.5581185	3952
53	3401.060	9.5316143	3492	10.4683857	29402.5977	53	3616.660	9.5585377	3948
54	3403.795	9.5319635	3488	10.4680365	29378.9686	54	3619.950	9.5589582	3946
55	3406.530	9.5323122	3485	10.4676877	29355.3805	55	3623.240	9.5593797	3943
56	3409.265	9.5326608	3482	10.4673392	29331.8334	56	3626.531	9.5598014	3940
57	3412.000	9.5330090	3479	10.4669910	29308.3263	57	3629.823	9.5602244	3938
58	3414.734	9.5333566	3475	10.4666431	29284.8582	58	3633.115	9.5606492	3935
59	3417.468	9.5337044	3472	10.4662956	29261.4311	59	3636.408	9.5610757	3933
60	3420.202	9.5340517	3470	10.4659483	29238.0440	60	3639.702	9.5615036	3932
			Dit.	L. Sec.	N. Sec. 170				Dit.

		N. Sec.	L. Sec.	D.	
10.4630281	29042.10960	10576.207	10.0243299	9.9756701	9455.18560
10.46326179	28924.68859	10577.267	10.0243735	9.9756261	9454.23859
10.4632080	28987.31458	210578.328	10.0244170	9.9755830	9453.29058
10.4637983	28959.98057	310579.387	10.0244606	9.9755394	9452.34157
10.4631380	28932.20856	410580.453	10.0245043	9.9754957	9451.39256
10.4609800	28905.40755	510581.517	10.0245479	9.9754521	9450.44055
10.4605713	28878.27754	610582.583	10.0245917	9.9754083	9449.48954
10.4601629	28851.12853	710583.649	10.0246354	9.9753646	9448.53753
10.4597647	28824.03352	810584.717	10.0246792	9.9753208	9447.58452
10.4593469	28796.97951	910585.784	10.0247231	9.9752769	9446.63051
10.4589394	28769.97050	1010586.853	10.0247670	9.9752330	9445.67750
10.4585322	28743.00749	1110587.920	10.0248109	9.9751891	9444.72049
10.4581253	28716.08848	1210588.999	10.0248549	9.9751451	9443.76448
10.4577187	28689.21547	1310590.078	10.0248989	9.9751011	9442.80747
10.4573123	28662.38646	1410591.146	10.0249430	9.9750570	9441.84946
10.4569063	28635.60245	1510592.221	10.0249871	9.9750129	9440.89045
10.4565005	28608.86344	1610593.298	10.0250312	9.9749688	9439.93144
10.4560952	28582.16843	1710594.376	10.0250754	9.9749246	9438.97143
10.4556900	28555.11742	1810595.454	10.0251196	9.9748804	9438.01042
10.4552852	28528.91141	1910596.534	10.0251639	9.9748363	9437.04841
10.4548807	28502.34940	2010597.615	10.0252082	9.9747921	9436.08540
10.4544766	28475.83139	2110598.697	10.0252525	9.9747479	9435.12139
10.4540724	28449.31638	2210599.781	10.0252969	9.9747037	9434.15738
10.4536688	28422.92437	2310600.865	10.0253413	9.9746597	9433.19237
10.4532654	28396.53636	2410601.951	10.0253858	9.9746154	9432.22636
10.4528623	28370.19635	2510603.037	10.0254303	9.9745709	9431.26035
10.4524599	28343.89634	2610604.125	10.0254748	9.9745264	9430.29334
10.4520570	28317.63933	2710605.214	10.0255194	9.9744808	9429.32633
10.4516548	28291.42632	2810606.304	10.0255641	9.9744359	9428.35632
10.4512525	28265.25631	2910607.395	10.0256087	9.9743913	9427.38631
10.4508512	28239.12930	3010608.487	10.0256534	9.9743466	9426.41530
10.4504500	28213.04929	3110609.580	10.0256982	9.9743018	9425.44429
10.4500489	28187.00328	3210610.675	10.0257430	9.9742570	9424.47328
10.4496478	28161.00427	3310611.770	10.0257878	9.9742122	9423.50227
10.4492471	28135.04826	3410612.867	10.0258327	9.9741673	9422.53126
10.4488461	28109.13425	3510613.965	10.0258776	9.9741224	9421.56025
10.4484456	28083.26324	3610615.064	10.0259226	9.9740774	9420.58924
10.4480452	28057.43323	3710616.164	10.0259676	9.9740324	9419.61823
10.4476445	28031.64622	3810617.265	10.0260127	9.9739873	9418.64722
10.4472438	28005.90121	3910618.367	10.0260578	9.9739422	9417.67621
10.4468435	27980.19820	4010619.471	10.0261029	9.9738971	9416.70520
10.4464432	27954.53719	4110620.575	10.0261481	9.9738519	9415.73419
10.4460431	27928.91718	4210621.681	10.0261933	9.9738067	9414.76318
10.4456432	27903.33917	4310622.788	10.0262385	9.9737615	9413.79217
10.4452435	27877.80216	4410623.896	10.0262838	9.9737162	9412.82116
10.4448438	27852.30715	4510624.005	10.0263291	9.9736709	9411.85015
10.4444441	27826.85314	4610625.115	10.0263745	9.9736257	9410.87914
10.4440446	27801.44013	4710626.227	10.0264199	9.9735801	9409.90813
10.4436451	27776.06912	4810627.339	10.0264654	9.9735346	9408.93712
10.4432456	27750.73811	4910628.453	10.0265109	9.9734891	9407.96611
10.4428461	27725.44810	5010629.568	10.0265565	9.9734435	9406.99510
10.4424466	27700.1999	5110631.684	10.0266020	9.9733980	9406.02409
10.4420471	27674.9908	5210632.803	10.0266477	9.9733523	9405.05308
10.4416476	27649.8227	5310633.919	10.0266933	9.9733067	9404.08207
10.4412481	27624.6916	5410635.038	10.0267390	9.9732610	9403.11106
10.4408486	27599.6005	5510636.158	10.0267848	9.9732152	9402.14005
10.4404491	27574.5514	5610637.280	10.0268306	9.9731694	9401.16904
10.4400496	27549.5543	5710638.403	10.0268764	9.9731236	9400.19803
10.4396501	27524.5882	5810639.527	10.0269223	9.9730777	9399.22702
10.4392506	27499.6611	5910640.652	10.0269682	9.9730318	9398.25601
10.4388511	27474.7740	6010641.778	10.0270142	9.9729858	9397.28500
L. Tan.	N. Tan.			D.	N. Sin.

20	N. Sin.	L. Sin.	Dif.			20	N. Tan.	L. Tan.	Dif.
0	3420.202	9.5340517		10.4659483	29238.04460	0	3639.702	9.5610659	
1	3422.935	9.5343986	3469	10.4656014	29214.69759	1	3642.997	9.5614588	3929
2	3425.668	9.5347452	3466	10.4652548	29191.38958	2	3646.292	9.5618515	3927
3	3428.401	9.5350915	3463	10.4649085	29168.12157	3	3649.588	9.5622439	3924
4	3431.133	9.5354375	3460	10.4645625	29144.89256	4	3652.885	9.5626360	3921
5	3433.865	9.5357832	3457	10.4642168	29121.70355	5	3656.182	9.5630278	3918
6	3436.597	9.5361286	3454	10.4638714	29098.55354	6	3659.480	9.5634194	3916
7	3439.329	9.5364737	3451	10.4635263	29075.44353	7	3662.779	9.5638107	3913
8	3442.060	9.5368184	3447	10.4631816	29052.37252	8	3666.079	9.5642018	3911
9	3444.791	9.5371628	3444	10.4628372	29029.33951	9	3669.379	9.5645925	3907
10	3447.522	9.5375070	3442	10.4624930	29006.34650	10	3672.680	9.5649831	3906
11	3450.252	9.5378508	3438	10.4621492	28983.39149	11	3675.982	9.5653733	3902
12	3452.982	9.5381943	3435	10.4618057	28960.47548	12	3679.284	9.5657633	3900
13	3455.712	9.5385375	3432	10.4614625	28937.59847	13	3682.587	9.5661530	3897
14	3458.442	9.5388804	3429	10.4611196	28914.76046	14	3685.891	9.5665424	3894
15	3461.171	9.5392230	3426	10.4607770	28891.95945	15	3689.195	9.5669316	3892
16	3463.900	9.5395655	3423	10.4604347	28869.19844	16	3692.500	9.5673205	3889
17	3466.629	9.5399073	3420	10.4600927	28846.47443	17	3695.803	9.5677091	3886
18	3469.357	9.5402489	3416	10.4597511	28823.78942	18	3699.106	9.5680975	3884
19	3472.085	9.5405903	3414	10.4594097	28801.14241	19	3702.420	9.5684856	3881
20	3474.813	9.5409314	3411	10.4590686	28778.53240	20	3705.728	9.5688735	3879
21	3477.540	9.5412721	3407	10.4587279	28755.96139	21	3709.037	9.5692611	3876
22	3480.267	9.5416126	3405	10.4583874	28733.42838	22	3712.346	9.5696484	3873
23	3482.994	9.5419527	3401	10.4580473	28710.93237	23	3715.656	9.5700355	3871
24	3485.721	9.5422926	3399	10.4577074	28688.47436	24	3718.967	9.5704223	3868
25	3488.447	9.5426321	3395	10.4573679	28666.05335	25	3722.278	9.5708088	3865
26	3491.173	9.5429713	3392	10.4570287	28643.67034	26	3725.590	9.5711951	3863
27	3493.899	9.5433103	3390	10.4566897	28621.32433	27	3728.903	9.5715811	3860
28	3496.624	9.5436489	3386	10.4563511	28599.01532	28	3732.217	9.5719669	3858
29	3499.349	9.5439873	3384	10.4560127	28576.74431	29	3735.532	9.5723524	3855
30	3502.074	9.5443253	3380	10.4556747	28554.50930	30	3738.847	9.5727377	3853
31	3504.799	9.5446630	3377	10.4553370	28532.31229	31	3742.163	9.5731227	3850
32	3507.523	9.5450005	3375	10.4549995	28510.15228	32	3745.479	9.5735074	3847
33	3510.247	9.5453376	3371	10.4546624	28488.02827	33	3748.797	9.5738919	3845
34	3512.970	9.5456745	3369	10.4543255	28465.94126	34	3752.115	9.5742761	3842
35	3515.693	9.5460110	3365	10.4539880	28443.89125	35	3755.434	9.5746601	3840
36	3518.416	9.5463472	3360	10.4536528	28421.87724	36	3758.753	9.5750438	3837
37	3521.139	9.5466822	3357	10.4533168	28399.89923	37	3762.073	9.5754274	3834
38	3523.862	9.5470189	3353	10.4529811	28377.95822	38	3765.394	9.5758107	3832
39	3526.584	9.5473542	3351	10.4526458	28356.05421	39	3768.716	9.5761934	3830
40	3529.306	9.5476893	3347	10.4523107	28334.18520	40	3772.038	9.5765761	3827
41	3532.027	9.5480240	3345	10.4519760	28312.35319	41	3775.361	9.5769588	3824
42	3534.748	9.5483585	3342	10.4516415	28290.55618	42	3778.685	9.5773407	3822
43	3537.469	9.5486927	3339	10.4513073	28268.79617	43	3782.010	9.5777226	3819
44	3540.190	9.5490266	3336	10.4509734	28247.07116	44	3785.335	9.5781043	3817
45	3542.910	9.5493602	3333	10.4506398	28225.38215	45	3788.661	9.5784858	3815
46	3545.630	9.5496935	3330	10.4503065	28203.72914	46	3791.988	9.5788666	3812
47	3548.350	9.5500265	3327	10.4499735	28182.11113	47	3795.316	9.5792476	3810
48	3551.070	9.5503592	3324	10.4496408	28160.52912	48	3798.644	9.5796283	3807
49	3553.789	9.5506916	3321	10.4493084	28138.98211	49	3801.973	9.5800090	3804
50	3556.508	9.5510237	3319	10.4489762	28117.47110	50	3805.303	9.5803892	3802
51	3559.226	9.5513556	3315	10.4486444	28095.99595	51	3808.633	9.5807691	3799
52	3561.944	9.5516871	3313	10.4483129	28074.55488	52	3811.964	9.5811488	3797
53	3564.662	9.5520184	3310	10.4479816	28053.14877	53	3815.296	9.5815282	3794
54	3567.380	9.5523494	3307	10.4476506	28031.77766	54	3818.629	9.5819074	3792
55	3570.097	9.5526801	3304	10.4473199	28010.44155	55	3821.962	9.5822864	3790
56	3572.814	9.5530105	3301	10.4469895	27989.14044	56	3825.296	9.5826651	3787
57	3575.531	9.5533406	3298	10.4466594	27967.87333	57	3828.631	9.5830435	3784
58	3578.248	9.5536704	3295	10.4463296	27946.64122	58	3831.967	9.5834217	3782
59	3580.964	9.5539999	3293	10.4460001	27925.44411	59	3835.303	9.5837997	3780
60	3583.679	9.5543292	3290	10.4456708	27904.28100	60	3838.640	9.5841774	3777
			Dif.	L. Sec.	N. Sec.				Dif.

			20	N. Sec.	L. Sec.	D.		
10.4389341	27474.774	60	0	10641.778	10.0270142	466	9.9729858	9396.926 60
10.4385412	27449.927	59	1	10642.905	10.0270602	466	9.9729398	9395.931 59
10.4381485	27425.120	58	2	10644.033	10.0271062	466	9.9728938	9394.935 58
10.4377561	27400.352	57	3	10645.163	10.0271522	461	9.9728477	9393.938 57
10.4373640	27375.612	56	4	10646.294	10.0271984	461	9.9728016	9392.940 56
10.4369722	27350.854	55	5	10647.426	10.0272446	462	9.9727554	9391.942 55
10.4365806	27326.284	54	6	10648.559	10.0272908	462	9.9727092	9390.943 54
10.4361893	27301.674	53	7	10649.693	10.0273371	463	9.9726629	9389.943 53
10.4357982	27277.102	52	8	10650.828	10.0273834	463	9.9726166	9388.942 52
10.4354075	27252.569	51	9	10651.964	10.0274297	463	9.9725703	9387.940 51
10.4350169	27228.075	50	10	10653.101	10.0274761	464	9.9725239	9386.937 50
10.4346267	27203.620	49	11	10654.240	10.0275225	464	9.9724775	9385.934 49
10.4342367	27179.204	48	12	10655.380	10.0275690	465	9.9724310	9384.930 48
10.4338470	27154.826	47	13	10656.521	10.0276155	465	9.9723845	9383.925 47
10.4334576	27130.487	46	14	10657.663	10.0276620	465	9.9723380	9382.919 46
10.4330684	27106.186	45	15	10658.807	10.0277086	466	9.9722914	9381.913 45
10.4326795	27081.923	44	16	10659.951	10.0277552	466	9.9722448	9380.906 44
10.4322909	27057.699	43	17	10661.097	10.0278019	467	9.9721981	9379.898 43
10.4319025	27033.513	42	18	10662.243	10.0278486	467	9.9721514	9378.889 42
10.4315144	27009.364	41	19	10663.391	10.0278953	467	9.9721047	9377.879 41
10.4311265	26985.244	40	20	10664.540	10.0279421	468	9.9720579	9376.869 40
10.4307389	26961.181	39	21	10665.690	10.0279890	469	9.9720110	9375.858 39
10.4303516	26937.147	38	22	10666.842	10.0280358	468	9.9719642	9374.846 38
10.4299645	26913.149	37	23	10667.994	10.0280828	470	9.9719171	9373.833 37
10.4295777	26889.190	36	24	10669.148	10.0281297	469	9.9718703	9372.819 36
10.4291912	26865.267	35	25	10670.302	10.0281767	470	9.9718233	9371.805 35
10.4288049	26841.383	34	26	10671.458	10.0282238	471	9.9717762	9370.790 34
10.4284189	26817.535	33	27	10672.615	10.0282709	471	9.9717291	9369.774 33
10.4280331	26793.725	32	28	10673.774	10.0283180	471	9.9716820	9368.757 32
10.4276476	26769.951	31	29	10674.934	10.0283652	472	9.9716348	9367.740 31
10.4272623	26746.215	30	30	10676.094	10.0284124	472	9.9715876	9366.722 30
10.4268773	26722.516	29	31	10677.255	10.0284596	472	9.9715404	9365.703 29
10.4264926	26698.853	28	32	10678.418	10.0285069	473	9.9714931	9364.683 28
10.4261081	26675.227	27	33	10679.582	10.0285543	474	9.9714457	9363.662 27
10.4257239	26651.638	26	34	10680.747	10.0286016	473	9.9713984	9362.640 26
10.4253399	26628.085	25	35	10681.914	10.0286491	475	9.9713509	9361.618 25
10.4249562	26604.569	24	36	10683.081	10.0286965	474	9.9713035	9360.595 24
10.4245728	26581.089	23	37	10684.250	10.0287440	475	9.9712560	9359.571 23
10.4241896	26557.645	22	38	10685.420	10.0287916	476	9.9712084	9358.546 22
10.4238066	26534.238	21	39	10686.591	10.0288392	476	9.9711608	9357.521 21
10.4234239	26510.867	20	40	10687.763	10.0288868	477	9.9711132	9356.495 20
10.4230415	26487.531	19	41	10688.936	10.0289345	477	9.9710655	9355.468 19
10.4226593	26464.232	18	42	10690.110	10.0289822	477	9.9710178	9354.440 18
10.4222774	26440.969	17	43	10691.286	10.0290299	477	9.9709701	9353.411 17
10.4218957	26417.741	16	44	10692.463	10.0290777	478	9.9709223	9352.382 16
10.4215142	26394.549	15	45	10693.641	10.0291256	479	9.9708744	9351.352 15
10.4211331	26371.392	14	46	10694.820	10.0291735	479	9.9708265	9350.321 14
10.4207521	26348.271	13	47	10696.000	10.0292214	480	9.9707786	9349.289 13
10.4203714	26325.186	12	48	10697.182	10.0292694	480	9.9707306	9348.256 12
10.4199910	26302.136	11	49	10698.363	10.0293174	480	9.9706826	9347.223 11
10.4196108	26279.121	10	50	10699.548	10.0293654	481	9.9706346	9346.189 10
10.4192309	26256.141	9	51	10700.733	10.0294135	481	9.9705865	9345.154 9
10.4188512	26233.196	8	52	10701.919	10.0294617	481	9.9705383	9344.118 8
10.4184718	26210.285	7	53	10703.106	10.0295098	482	9.9704902	9343.082 7
10.4180926	26187.411	6	54	10704.295	10.0295581	482	9.9704419	9342.045 6
10.4177136	26164.571	5	55	10705.484	10.0296063	482	9.9703937	9341.007 5
10.4173349	26141.766	4	56	10706.675	10.0296546	483	9.9703454	9339.968 4
10.4169565	26118.995	3	57	10707.867	10.0297030	483	9.9702970	9338.928 3
10.4165783	26096.258	2	58	10709.060	10.0297514	484	9.9702486	9337.887 2
10.4162003	26073.558	1	59	10710.254	10.0297998	484	9.9702002	9336.846 1
10.4158226	26050.891	0	60	10711.450	10.0298483	485	9.9701517	9335.804 0
L. Tan.	N. Tan. 160					D.	L. Sin.	N. Sin. 160

21	N. Sin.	L. Sin.	Dif.			21	N. Tan.	L. Tan.	Dif.
0	3583.679	9.5543292		10.4456708	27904.281	60	33838.640	9.5841774	
1	3586.395	9.5546131	3289	10.4453419	27883.153	59	33841.978	9.5845549	3775
2	3589.110	9.5548968	3287	10.4450132	27862.059	58	33845.317	9.5849321	3772
3	3591.825	9.5551812	3284	10.4446848	27840.999	57	33848.656	9.5853091	3768
4	3594.540	9.5554643	3281	10.4443567	27819.973	56	33851.996	9.5856859	3765
5	3597.254	9.5557471	3278	10.4440289	27798.982	55	33855.337	9.5860624	3762
6	3599.968	9.5560298	3276	10.4437013	27778.024	54	33858.679	9.5864386	3761
7	3602.682	9.5563125	3272	10.4433741	27757.100	53	33862.021	9.5868147	3757
8	3605.395	9.5565952	3270	10.4430471	27736.211	52	33865.364	9.5871904	3755
9	3608.108	9.5568779	3267	10.4427204	27715.355	51	33868.708	9.5875660	3753
10	3610.821	9.5571606	3264	10.4423940	27694.532	50	33872.052	9.5879413	3750
11	3613.533	9.5574432	3261	10.4420679	27673.743	49	33875.398	9.5883163	3749
12	3616.246	9.5577259	3258	10.4417421	27652.988	48	33878.744	9.5886912	3745
13	3618.958	9.5580085	3256	10.4414165	27632.266	47	33882.091	9.5890667	3744
14	3621.669	9.5582908	3253	10.4410912	27611.578	46	33885.439	9.5894401	3741
15	3624.380	9.5585733	3250	10.4407662	27590.923	45	33888.787	9.5898142	3738
16	3627.091	9.5588558	3247	10.4404415	27570.301	44	33892.136	9.5901881	3736
17	3629.802	9.5591382	3244	10.4401171	27549.712	43	33895.486	9.5905617	3734
18	3632.512	9.5594207	3242	10.4397929	27529.157	42	33898.837	9.5909351	3731
19	3635.222	9.5597031	3239	10.4394690	27508.634	41	33902.189	9.5913082	3729
20	3637.932	9.5599856	3236	10.4391454	27488.144	40	33905.541	9.5916812	3727
21	3640.641	9.5602681	3233	10.4388221	27467.687	39	33908.894	9.5920539	3724
22	3643.350	9.5605505	3231	10.4384990	27447.263	38	33912.248	9.5924263	3722
23	3646.059	9.5608329	3227	10.4381763	27426.871	37	33915.602	9.5927985	3720
24	3648.768	9.5611152	3225	10.4378538	27406.512	36	33918.957	9.5931708	3718
25	3651.476	9.5613975	3223	10.4375315	27386.186	35	33922.313	9.5935423	3715
26	3654.184	9.5616799	3219	10.4372096	27365.892	34	33925.670	9.5939138	3713
27	3656.892	9.5619621	3217	10.4368879	27345.630	33	33929.028	9.5942851	3710
28	3659.599	9.5622443	3214	10.4365665	27325.400	32	33932.386	9.5946561	3708
29	3662.306	9.5625266	3211	10.4362454	27305.203	31	33935.745	9.5950269	3706
30	3665.013	9.5628089	3208	10.4359246	27285.038	30	33939.105	9.5953975	3704
31	3667.719	9.5630910	3206	10.4356040	27264.905	29	33942.466	9.5957679	3701
32	3670.425	9.5633733	3203	10.4352837	27244.804	28	33945.827	9.5961380	3699
33	3673.131	9.5636556	3200	10.4349637	27224.735	27	33949.189	9.5965079	3697
34	3675.836	9.5639379	3198	10.4346439	27204.698	26	33952.552	9.5968776	3694
35	3678.541	9.5642202	3195	10.4343244	27184.693	25	33955.916	9.5972470	3692
36	3681.246	9.5645025	3192	10.4340052	27164.719	24	33959.280	9.5976162	3690
37	3683.950	9.5647848	3189	10.4336863	27144.777	23	33962.645	9.5979852	3688
38	3686.654	9.5650671	3187	10.4333676	27124.866	22	33966.011	9.5983540	3685
39	3689.358	9.5653494	3184	10.4330492	27104.987	21	33969.378	9.5987225	3683
40	3692.062	9.5656317	3181	10.4327311	27085.139	20	33972.746	9.5990908	3681
41	3694.765	9.5659140	3179	10.4324132	27065.323	19	33976.114	9.5994588	3679
42	3697.468	9.5661963	3176	10.4320956	27045.538	18	33979.483	9.5998267	3676
43	3700.170	9.5664786	3173	10.4317783	27025.784	17	33982.853	9.6001943	3674
44	3702.872	9.5667609	3170	10.4314613	27006.061	16	33986.224	9.6005617	3672
45	3705.574	9.5670432	3168	10.4311445	26986.370	15	33989.596	9.6009289	3669
46	3708.276	9.5673255	3166	10.4308279	26966.709	14	33992.968	9.6012958	3667
47	3710.977	9.5676078	3162	10.4305117	26947.079	13	33996.341	9.6016625	3665
48	3713.678	9.5678901	3160	10.4301957	26927.480	12	33999.715	9.6020290	3663
49	3716.379	9.5681724	3157	10.4298800	26907.912	11	34003.089	9.6023953	3660
50	3719.080	9.5684547	3155	10.4295645	26888.374	10	34006.465	9.6027613	3658
51	3721.780	9.5687370	3151	10.4292494	26868.867	9	34009.841	9.6031271	3656
52	3724.480	9.5690193	3150	10.4289344	26849.391	8	34013.218	9.6034927	3654
53	3727.179	9.5693016	3146	10.4286198	26829.945	7	34016.596	9.6038581	3652
54	3729.878	9.5695839	3144	10.4283054	26810.530	6	34019.975	9.6042233	3649
55	3732.577	9.5698662	3141	10.4279913	26791.145	5	34023.354	9.6045882	3647
56	3735.275	9.5701485	3139	10.4276774	26771.790	4	34026.734	9.6049529	3645
57	3737.973	9.5704308	3136	10.4273638	26752.465	3	34030.115	9.6053174	3643
58	3740.671	9.5707131	3133	10.4270505	26733.170	2	34033.497	9.6056817	3640
59	3743.369	9.5709954	3131	10.4267374	26713.906	1	34036.879	9.6060457	3639
60	3746.066	9.5712777	3128	10.4264246	26694.672	0	34040.252	9.6064096	
			Dif.	L. Sec.	N. Sec.	68			Dit.

			21	N. Sec.	L. Sec.	D.			
10.4158226	26050.891	60	0	10711.450	10.0298483	485	9.9701517	9335.804	60
10.4154451	26028.258	59	1	10712.647	10.0298968	485	9.9701032	9334.761	59
10.4150679	26005.659	58	2	10713.844	10.0299453	486	9.9700547	9333.717	58
10.4146909	25983.095	57	3	10715.043	10.0299939	486	9.9700061	9332.673	57
10.4143141	25960.564	56	4	10716.244	10.0300426	487	9.9699574	9331.628	56
10.4139376	25938.068	55	5	10717.445	10.0300913	487	9.9699087	9330.582	55
10.4135614	25915.606	54	6	10718.647	10.0301400	487	9.9698600	9329.535	54
10.4131853	25893.177	53	7	10719.851	10.0301888	488	9.9698112	9328.487	53
10.4128096	25870.782	52	8	10721.056	10.0302376	488	9.9697624	9327.439	52
10.4124340	25848.421	51	9	10722.262	10.0302864	488	9.9697136	9326.390	51
10.4120587	25826.094	50	10	10723.469	10.0303353	489	9.9696647	9325.340	50
10.4116837	25803.807	49	11	10724.678	10.0303842	489	9.9696158	9324.289	49
10.4113088	25781.539	48	12	10725.887	10.0304332	490	9.9695668	9323.238	48
10.4109343	25759.312	47	13	10727.098	10.0304823	491	9.9695177	9322.186	47
10.4105599	25737.118	46	14	10728.310	10.0305313	490	9.9694687	9321.133	46
10.4101858	25714.957	45	15	10729.523	10.0305804	491	9.9694196	9320.079	45
10.4098119	25692.830	44	16	10730.737	10.0306296	492	9.9693704	9319.024	44
10.4094383	25670.735	43	17	10731.953	10.0306788	492	9.9693212	9317.968	43
10.4090649	25648.674	42	18	10733.170	10.0307280	492	9.9692720	9316.912	42
10.4086918	25626.645	41	19	10734.388	10.0307773	493	9.9692227	9315.855	41
10.4083188	25604.649	40	20	10735.607	10.0308266	493	9.9691734	9314.797	40
10.4079461	25582.686	39	21	10736.827	10.0308759	493	9.9691241	9313.738	39
10.4075737	25560.766	38	22	10738.048	10.0309254	495	9.9690746	9312.679	38
10.4072015	25538.858	37	23	10739.271	10.0309748	494	9.9690252	9311.619	37
10.4068295	25516.992	36	24	10740.495	10.0310243	495	9.9689757	9310.558	36
10.4064577	25495.160	35	25	10741.720	10.0310738	495	9.9689262	9309.496	35
10.4060862	25473.359	34	26	10742.946	10.0311234	496	9.9688766	9308.433	34
10.4057149	25451.591	33	27	10744.173	10.0311730	496	9.9688270	9307.370	33
10.4053439	25429.855	32	28	10745.402	10.0312227	497	9.9687773	9306.306	32
10.4049731	25408.151	31	29	10746.631	10.0312724	497	9.9687276	9305.241	31
10.4046025	25386.479	30	30	10747.862	10.0313221	497	9.9686779	9304.175	30
10.4042321	25364.839	29	31	10749.095	10.0313719	498	9.9686281	9303.109	29
10.4038620	25343.231	28	32	10750.328	10.0314217	498	9.9685783	9302.042	28
10.4034921	25321.655	27	33	10751.562	10.0314716	499	9.9685284	9300.974	27
10.4031224	25300.111	26	34	10752.798	10.0315215	499	9.9684785	9299.905	26
10.4027530	25278.598	25	35	10754.035	10.0315714	500	9.9684286	9298.835	25
10.4023838	25257.117	24	36	10755.273	10.0316214	500	9.9683786	9297.765	24
10.4020148	25235.667	23	37	10756.512	10.0316715	501	9.9683285	9296.694	23
10.4016460	25214.249	22	38	10757.753	10.0317216	501	9.9682784	9295.622	22
10.4012775	25192.863	21	39	10758.995	10.0317717	502	9.9682283	9294.549	21
10.4009092	25171.507	20	40	10760.237	10.0318219	502	9.9681781	9293.475	20
10.4005412	25150.183	19	41	10761.481	10.0318721	502	9.9681279	9292.401	19
10.4001733	25128.890	18	42	10762.727	10.0319223	502	9.9680777	9291.326	18
10.3998057	25107.629	17	43	10763.973	10.0319726	503	9.9680274	9290.250	17
10.3994383	25086.398	16	44	10765.221	10.0320229	503	9.9679771	9289.173	16
10.3990711	25065.198	15	45	10766.470	10.0320733	504	9.9679267	9288.095	15
10.3987042	25044.029	14	46	10767.720	10.0321237	504	9.9678763	9287.017	14
10.3983375	25022.891	13	47	10768.971	10.0321742	505	9.9678258	9285.938	13
10.3979709	25001.784	12	48	10770.224	10.0322247	505	9.9677753	9284.855	12
10.3976047	24980.707	11	49	10771.477	10.0322753	506	9.9677247	9283.777	11
10.3972387	24959.661	10	50	10772.732	10.0323259	506	9.9676741	9282.696	10
10.3968729	24938.645	9	51	10773.988	10.0323765	507	9.9676235	9281.614	9
10.3965073	24917.660	8	52	10775.246	10.0324272	507	9.9675728	9280.531	8
10.3961419	24896.706	7	53	10776.504	10.0324779	508	9.9675221	9279.447	7
10.3957767	24875.781	6	54	10777.764	10.0325287	508	9.9674715	9278.362	6
10.3954118	24854.887	5	55	10779.025	10.0325795	508	9.9674205	9277.277	5
10.3950471	24834.023	4	56	10780.287	10.0326303	509	9.9673697	9276.191	4
10.3946826	24813.190	3	57	10781.550	10.0326812	509	9.9673188	9275.104	3
10.3943183	24792.386	2	58	10782.813	10.0327321	509	9.9672679	9274.016	2
10.3939543	24771.612	1	59	10784.080	10.0327831	510	9.9672169	9272.928	1
10.3935904	24750.869	0	60	10785.347	10.0328341	510	9.9671659	9271.839	0
L. Tan.	N. Tan.	68					D. L. Sin.	N. Sin.	68

22	N. Sin.	L. Sin.	Dif.			22	N. Tan.	L. Tan.	Dif.
0	3746.066	9.5735754		10.4264246	26694.672 60	0	4040.262	9.6064096	3636
1	3748.763	9.5738880	3126	10.4261120	26675.467 59	1	4043.646	9.6067732	3634
2	3751.459	9.5742003	3123	10.4257997	26656.292 58	2	4047.031	9.6071366	3631
3	3754.156	9.5745123	3120	10.4254877	26637.148 57	3	4050.417	9.6074997	3630
4	3756.852	9.5748240	3117	10.4251760	26618.033 56	4	4053.804	9.6078627	3627
5	3759.547	9.5751356	3116	10.4248644	26598.947 55	5	4057.191	9.6082254	3626
6	3762.243	9.5754468	3112	10.4245532	26579.891 54	6	4060.579	9.6085880	3623
7	3764.938	9.5757578	3110	10.4242422	26560.865 53	7	4063.968	9.6089503	3621
8	3767.632	9.5760685	3107	10.4239315	26541.868 52	8	4067.358	9.6093124	3618
9	3770.327	9.5763790	3105	10.4236210	26522.901 51	9	4070.748	9.6096742	3617
10	3773.021	9.5766892	3102	10.4233108	26503.962 50	10	4074.139	9.6100359	3614
11	3775.714	9.5769991	3099	10.4230009	26485.054 49	11	4077.531	9.6103973	3613
12	3778.408	9.5773088	3097	10.4226912	26466.174 48	12	4080.924	9.6107586	3610
13	3781.101	9.5776183	3095	10.4223817	26447.323 47	13	4084.318	9.6111196	3608
14	3783.794	9.5779279	3092	10.4220725	26428.502 46	14	4087.713	9.6114804	3605
15	3786.486	9.5782364	3089	10.4217636	26409.709 45	15	4091.108	9.6118409	3604
16	3789.178	9.5785450	3088	10.4214550	26390.946 44	16	4094.504	9.6122013	3602
17	3791.870	9.5788535	3085	10.4211465	26372.211 43	17	4097.901	9.6125615	3599
18	3794.562	9.5791616	3081	10.4208384	26353.505 42	18	4101.299	9.6129214	3598
19	3797.253	9.5794695	3079	10.4205305	26334.828 41	19	4104.697	9.6132812	3595
20	3799.944	9.5797772	3077	10.4202228	26316.180 40	20	4108.097	9.6136407	3593
21	3802.634	9.5800845	3073	10.4199155	26297.560 39	21	4111.497	9.6140000	3591
22	3805.324	9.5803917	3072	10.4196083	26278.969 38	22	4114.898	9.6143591	3589
23	3808.014	9.5806986	3069	10.4193014	26260.406 37	23	4118.300	9.6147180	3586
24	3810.704	9.5810052	3066	10.4189948	26241.872 36	24	4121.703	9.6150766	3585
25	3813.393	9.5813116	3064	10.4186884	26223.366 35	25	4125.106	9.6154351	3583
26	3816.082	9.5816177	3061	10.4183823	26204.888 34	26	4128.510	9.6157934	3580
27	3818.770	9.5819236	3059	10.4180764	26186.439 33	27	4131.915	9.6161514	3579
28	3821.459	9.5822292	3056	10.4177708	26168.018 32	28	4135.321	9.6165093	3576
29	3824.147	9.5825345	3053	10.4174655	26149.624 31	29	4138.728	9.6168669	3574
30	3826.834	9.5828397	3052	10.4171603	26131.259 30	30	4142.136	9.6172243	3572
31	3829.522	9.5831445	3048	10.4168555	26112.922 29	31	4145.544	9.6175815	3570
32	3832.209	9.5834491	3046	10.4165509	26094.613 28	32	4148.953	9.6179385	3568
33	3834.895	9.5837535	3044	10.4162465	26076.332 27	33	4152.363	9.6182953	3566
34	3837.582	9.5840576	3041	10.4159424	26058.078 26	34	4155.774	9.6186519	3564
35	3840.268	9.5843615	3039	10.4156385	26039.852 25	35	4159.186	9.6190083	3562
36	3842.953	9.5846651	3036	10.4153349	26021.654 24	36	4162.599	9.6193645	3560
37	3845.639	9.5849685	3034	10.4150315	26003.484 23	37	4166.012	9.6197205	3557
38	3848.324	9.5852716	3031	10.4147284	25985.341 22	38	4169.426	9.6200762	3556
39	3851.008	9.5855745	3029	10.4144255	25967.225 21	39	4172.841	9.6204318	3554
40	3853.693	9.5858771	3026	10.4141229	25949.137 20	40	4176.257	9.6207871	3551
41	3856.377	9.5861795	3024	10.4138205	25931.077 19	41	4179.674	9.6211423	3550
42	3859.060	9.5864816	3021	10.4135184	25913.043 18	42	4183.091	9.6214977	3547
43	3861.744	9.5867835	3019	10.4132165	25895.037 17	43	4186.509	9.6218520	3546
44	3864.427	9.5870851	3016	10.4129149	25877.058 16	44	4189.928	9.6222066	3543
45	3867.110	9.5873865	3014	10.4126135	25859.107 15	45	4193.348	9.6225609	3541
46	3869.792	9.5876876	3011	10.4123124	25841.182 14	46	4196.766	9.6229150	3540
47	3872.474	9.5879885	3009	10.4120115	25823.284 13	47	4200.191	9.6232690	3537
48	3875.156	9.5882892	3007	10.4117108	25805.414 12	48	4203.613	9.6236227	3536
49	3877.837	9.5885896	3004	10.4114104	25787.570 11	49	4207.036	9.6239763	3533
50	3880.518	9.5888897	3001	10.4111103	25769.753 10	50	4210.460	9.6243296	3531
51	3883.199	9.5891897	3000	10.4108103	25751.963 9	51	4213.885	9.6246827	3529
52	3885.883	9.5894892	2996	10.4105107	25734.199 8	52	4217.311	9.6250356	3528
53	3888.560	9.5897888	2995	10.4102112	25716.462 7	53	4220.738	9.6253884	3525
54	3891.239	9.5900880	2992	10.4099120	25698.752 6	54	4224.166	9.6257409	3523
55	3893.919	9.5903869	2989	10.4096131	25681.069 5	55	4227.594	9.6260932	3522
56	3896.598	9.5906856	2987	10.4093144	25663.412 4	56	4231.023	9.6264454	3519
57	3899.277	9.5909841	2985	10.4090159	25645.781 3	57	4234.453	9.6267973	3518
58	3901.955	9.5912823	2982	10.4087177	25628.176 2	58	4237.884	9.6271491	3515
59	3904.633	9.5915803	2980	10.4084197	25610.599 1	59	4241.316	9.6275006	3513
60	3907.311	9.5918780	2977	10.4081220	25593.047 0	60	4244.749	9.6278519	
			Dif.	L. Sec.	N. Sec. 167				Dif.

			22	N. Sec.	L. Sec.	D.		
10.3935904	24750.869	60	0	10785.347	10.0328341	9.9671659	9271.839	60
10.3932268	24730.155	59	1	10786.616	10.0328852	9.9671148	9270.749	59
10.3928634	24709.470	58	2	10787.885	10.0329363	9.9670637	9269.658	58
10.3925003	24688.816	57	3	10789.156	10.0329875	9.9670125	9268.566	57
10.3921373	24668.191	56	4	10790.427	10.0330386	9.9669614	9267.473	56
10.3917746	24647.596	55	5	10791.700	10.0330899	9.9669101	9266.380	55
10.3914122	24627.030	54	6	10792.975	10.0331412	9.9668588	9265.287	54
10.3910497	24606.494	53	7	10794.250	10.0331925	9.9668075	9264.191	53
10.3906876	24585.987	52	8	10795.527	10.0332438	9.9667562	9263.096	52
10.3903258	24565.509	51	9	10796.805	10.0332952	9.9667048	9262.000	51
10.3899641	24545.061	50	10	10798.084	10.0333467	9.9666533	9260.903	50
10.3896027	24524.642	49	11	10799.364	10.0333982	9.9666018	9259.805	49
10.3892414	24504.252	48	12	10800.646	10.0334497	9.9665503	9258.706	48
10.3888804	24483.891	47	13	10801.928	10.0335013	9.9664987	9257.606	47
10.3885196	24463.559	46	14	10803.212	10.0335529	9.9664471	9256.506	46
10.3881591	24443.256	45	15	10804.497	10.0336046	9.9663954	9255.405	45
10.3877987	24422.982	44	16	10805.784	10.0336563	9.9663437	9254.303	44
10.3874385	24402.736	43	17	10807.071	10.0337080	9.9662920	9253.200	43
10.3870786	24382.519	42	18	10808.360	10.0337598	9.9662402	9252.097	42
10.3867188	24362.331	41	19	10809.650	10.0338116	9.9661884	9250.993	41
10.3863593	24342.172	40	20	10810.942	10.0338635	9.9661365	9249.888	40
10.3860000	24322.041	39	21	10812.234	10.0339154	9.9660846	9248.782	39
10.3856409	24301.938	38	22	10813.528	10.0339674	9.9660326	9247.675	38
10.3852820	24281.864	37	23	10814.823	10.0340194	9.9659806	9246.568	37
10.3849224	24261.819	36	24	10816.119	10.0340715	9.9659285	9245.460	36
10.3845649	24241.801	35	25	10817.417	10.0341236	9.9658764	9244.351	35
10.3842066	24221.812	34	26	10818.715	10.0341757	9.9658243	9243.241	34
10.3838486	24201.851	33	27	10820.015	10.0342279	9.9657721	9242.131	33
10.3834907	24181.918	32	28	10821.316	10.0342801	9.9657199	9241.020	32
10.3831331	24162.013	31	29	10822.618	10.0343323	9.9656677	9239.908	31
10.3827757	24142.136	30	30	10823.922	10.0343847	9.9656153	9238.795	30
10.3824185	24122.286	29	31	10825.227	10.0344370	9.9655630	9237.681	29
10.3820615	24102.465	28	32	10826.533	10.0344894	9.9655106	9236.567	28
10.3817047	24082.672	27	33	10827.840	10.0345418	9.9654582	9235.452	27
10.3813481	24062.906	26	34	10829.149	10.0345943	9.9654057	9234.336	26
10.3809917	24043.168	25	35	10830.458	10.0346468	9.9653532	9233.219	25
10.3806355	24023.457	24	36	10831.769	10.0346994	9.9653006	9232.102	24
10.3802795	24003.774	23	37	10833.081	10.0347520	9.9652480	9230.984	23
10.3799238	23984.118	22	38	10834.395	10.0348047	9.9651953	9229.865	22
10.3795682	23964.490	21	39	10835.709	10.0348574	9.9651426	9228.745	21
10.3792128	23944.889	20	40	10837.025	10.0349101	9.9650899	9227.624	20
10.3788577	23925.316	19	41	10838.342	10.0349629	9.9650371	9226.503	19
10.3785027	23905.769	18	42	10839.661	10.0350157	9.9649843	9225.381	18
10.3781480	23886.250	17	43	10840.980	10.0350686	9.9649314	9224.258	17
10.3777934	23866.758	16	44	10842.301	10.0351215	9.9648785	9223.134	16
10.3774391	23847.293	15	45	10843.623	10.0351744	9.9648256	9222.009	15
10.3770850	23827.851	14	46	10844.947	10.0352274	9.9647726	9220.884	14
10.3767310	23808.444	13	47	10846.271	10.0352805	9.9647195	9219.758	13
10.3763773	23789.060	12	48	10847.597	10.0353335	9.9646663	9218.631	12
10.3760237	23769.703	11	49	10848.924	10.0353867	9.9646133	9217.503	11
10.3756704	23750.372	10	50	10850.252	10.0354398	9.9645602	9216.375	10
10.3753173	23731.068	9	51	10851.582	10.0354931	9.9645071	9215.246	9
10.3749644	23711.791	8	52	10852.913	10.0355463	9.9644539	9214.116	8
10.3746116	23692.540	7	53	10854.245	10.0355996	9.9644004	9212.985	7
10.3742591	23673.316	6	54	10855.578	10.0356530	9.9643470	9211.854	6
10.3739066	23654.118	5	55	10856.912	10.0357063	9.9642937	9210.722	5
10.3735546	23634.946	4	56	10858.248	10.0357595	9.9642402	9209.589	4
10.3732027	23615.801	3	57	10859.584	10.0358128	9.9641868	9208.455	3
10.3728509	23596.683	2	58	10860.924	10.0358663	9.9641332	9207.320	2
10.3724994	23577.590	1	59	10862.263	10.0359200	9.9640797	9206.185	1
10.3721481	23558.524	0	60	10863.604	10.0359739	9.9640261	9205.049	0
L. Tan.	N. Tan.	167				D. Tan.	N. Sin.	167

23	N. Sin.	L. Sin.	Dif.				23	N. Tan.	L. Tan.	Dif.
0	3907.311	9.5918780		10.4081220	25593.047	60	0	4244.749	9.6278519	
1	3909.989	9.5921755	2975	10.4078245	25575.521	59	1	4248.182	9.6282031	3572
2	3912.666	9.5924728	2973	10.4075272	25558.022	58	2	4251.616	9.6285540	3508
3	3915.343	9.5927698	2970	10.4072302	25540.548	57	3	4255.051	9.6289048	3505
4	3918.019	9.5930666	2968	10.4069334	25523.101	56	4	4258.487	9.6292553	3501
5	3920.695	9.5933631	2965	10.4066369	25505.680	55	5	4261.924	9.6296057	3500
6	3923.371	9.5936594	2963	10.4063406	25488.284	54	6	4265.362	9.6299558	3500
7	3926.047	9.5939555	2961	10.4060445	25470.915	53	7	4268.800	9.6303058	3498
8	3928.722	9.5942513	2958	10.4057487	25453.571	52	8	4272.239	9.6306556	3496
9	3931.397	9.5945469	2956	10.4054531	25436.253	51	9	4275.679	9.6310052	3492
10	3934.071	9.5948422	2953	10.4051578	25418.961	50	10	4279.120	9.6313545	3492
11	3936.745	9.5951373	2951	10.4048627	25401.694	49	11	4282.562	9.6317037	3490
12	3939.419	9.5954322	2949	10.4045678	25384.453	48	12	4286.005	9.6320527	3488
13	3942.093	9.5957268	2946	10.4042732	25367.238	47	13	4289.449	9.6324015	3486
14	3944.766	9.5960212	2944	10.4039788	25350.048	46	14	4292.894	9.6327501	3484
15	3947.439	9.5963154	2942	10.4036846	25332.883	45	15	4296.339	9.6330985	3483
16	3950.111	9.5966093	2939	10.4033907	25315.744	44	16	4299.785	9.6334468	3480
17	3952.783	9.5969036	2937	10.4030970	25298.630	43	17	4303.232	9.6337948	3478
18	3955.455	9.5971965	2935	10.4028035	25281.541	42	18	4306.680	9.6341426	3477
19	3958.127	9.5974897	2932	10.4025103	25264.478	41	19	4310.129	9.6344903	3475
20	3960.798	9.5977827	2930	10.4022173	25247.440	40	20	4313.579	9.6348378	3472
21	3963.469	9.5980754	2927	10.4019246	25230.426	39	21	4317.030	9.6351850	3471
22	3966.139	9.5983679	2925	10.4016321	25213.438	38	22	4320.481	9.6355321	3469
23	3968.809	9.5986602	2923	10.4013398	25196.475	37	23	4323.933	9.6358790	3467
24	3971.479	9.5989522	2921	10.4010477	25179.537	36	24	4327.386	9.6362257	3465
25	3974.148	9.5992441	2918	10.4007559	25162.624	35	25	4330.840	9.6365722	3463
26	3976.817	9.5995357	2916	10.4004643	25145.735	34	26	4334.295	9.6369185	3461
27	3979.486	9.5998270	2913	10.4001730	25128.871	33	27	4337.751	9.6372646	3460
28	3982.155	9.6001181	2911	10.3998819	25112.032	32	28	4341.208	9.6376106	3457
29	3984.823	9.6004090	2909	10.3995910	25095.218	31	29	4344.666	9.6379563	3456
30	3987.491	9.6006997	2907	10.3993003	25078.428	30	30	4348.124	9.6383019	3454
31	3990.158	9.6009901	2904	10.3990099	25061.663	29	31	4351.583	9.6386473	3452
32	3992.825	9.6012803	2902	10.3987197	25044.923	28	32	4355.043	9.6389925	3450
33	3995.492	9.6015703	2900	10.3984297	25028.207	27	33	4358.504	9.6393375	3448
34	3998.158	9.6018600	2897	10.3981400	25011.515	26	34	4361.966	9.6396823	3446
35	4000.824	9.6021495	2895	10.3978505	24994.847	25	35	4365.429	9.6400269	3445
36	4003.490	9.6024388	2893	10.3975612	24978.204	24	36	4368.893	9.6403714	3442
37	4006.156	9.6027278	2890	10.3972722	24961.586	23	37	4372.358	9.6407156	3441
38	4008.821	9.6030166	2888	10.3969834	24944.991	22	38	4375.823	9.6410597	3439
39	4011.486	9.6033055	2886	10.3966948	24928.421	21	39	4379.289	9.6414036	3437
40	4014.150	9.6035936	2884	10.3964064	24911.874	20	40	4382.750	9.6417473	3435
41	4016.814	9.6038817	2881	10.3961183	24895.352	19	41	4386.224	9.6420908	3434
42	4019.478	9.6041696	2879	10.3958304	24878.854	18	42	4389.693	9.6424341	3431
43	4022.141	9.6044573	2877	10.3955427	24862.380	17	43	4393.163	9.6427773	3430
44	4024.804	9.6047448	2875	10.3952552	24845.929	16	44	4396.634	9.6431203	3428
45	4027.467	9.6050322	2872	10.3949680	24829.503	15	45	4400.106	9.6434631	3426
46	4030.129	9.6053190	2870	10.3946810	24813.100	14	46	4403.578	9.6438057	3424
47	4032.791	9.6056057	2867	10.3943943	24796.721	13	47	4407.051	9.6441481	3422
48	4035.453	9.6058923	2866	10.3941077	24780.366	12	48	4410.525	9.6444903	3421
49	4038.114	9.6061786	2863	10.3938214	24764.034	11	49	4414.000	9.6448324	3419
50	4040.775	9.6064647	2861	10.3935353	24747.726	10	50	4417.476	9.6451743	3417
51	4043.436	9.6067506	2859	10.3932494	24731.442	9	51	4420.953	9.6455160	3415
52	4046.096	9.6070362	2856	10.3929638	24715.181	8	52	4424.431	9.6458575	3413
53	4048.756	9.6073218	2854	10.3926784	24698.943	7	53	4427.910	9.6461988	3412
54	4051.416	9.6076068	2852	10.3923932	24682.729	6	54	4431.390	9.6465400	3410
55	4054.075	9.6078918	2850	10.3921082	24666.538	5	55	4434.871	9.6468810	3407
56	4056.734	9.6081765	2847	10.3918235	24650.371	4	56	4438.353	9.6472217	3407
57	4059.393	9.6084611	2846	10.3915389	24634.227	3	57	4441.835	9.6475624	3404
58	4062.051	9.6087454	2843	10.3912546	24618.106	2	58	4445.318	9.6479028	3403
59	4064.709	9.6090294	2840	10.3909706	24602.008	1	59	4448.802	9.6482431	3400
60	4067.366	9.6093133	2839	10.3906867	24585.932	0	60	4452.287	9.6485831	
			Dif.	L. Sec.	N. Sec.	166				Dif.

			23	N. Sec.	L. Sec.	D.			
10.3721481	23558.5	24	60	010863.604	10.0359739	537	9.9640261	9205.049	60
10.3717969	23539.483	59		110864.946	10.0360276	537	9.9639724	9203.912	59
10.3714460	23520.469	58		210866.289	10.0360813	537	9.9639187	9202.774	58
10.3710951	23501.481	57		310867.634	10.0361350	538	9.9638650	9201.635	57
10.3707447	23482.519	56		410868.979	10.0361888	538	9.9638112	9200.496	56
10.3703943	23463.582	55		510870.326	10.0362426	538	9.9637574	9199.356	55
10.3700442	23444.672	54		610871.675	10.0362964	538	9.9637036	9198.215	54
10.3696942	23425.787	53		710873.024	10.0363504	540	9.9636496	9197.073	53
10.3693444	23406.928	52		810874.375	10.0364043	539	9.9635957	9195.931	52
10.3689948	23388.095	51		910875.727	10.0364583	540	9.9635417	9194.788	51
10.3686455	23369.287	50		1010877.080	10.0365123	540	9.9634877	9193.644	50
10.3682963	23350.505	49		1110878.435	10.0365664	541	9.9634336	9192.499	49
10.3679473	23331.748	48		1210879.791	10.0366205	541	9.9633795	9191.353	48
10.3675985	23313.017	47		1310881.148	10.0366747	542	9.9633253	9190.207	47
10.3672499	23294.311	46		1410882.506	10.0367289	542	9.9632711	9189.060	46
10.3669015	23275.630	45		1510883.866	10.0367832	543	9.9632168	9187.912	45
10.3665532	23256.975	44		1610885.227	10.0368375	543	9.9631625	9186.763	44
10.3662052	23238.345	43		1710886.589	10.0368918	543	9.9631082	9185.614	43
10.3658574	23219.740	42		1810887.952	10.0369462	544	9.9630538	9184.464	42
10.3655097	23201.160	41		1910889.317	10.0370006	544	9.9629994	9183.313	41
10.3651622	23182.606	40		2010890.683	10.0370551	545	9.9629449	9182.161	40
10.3648150	23164.076	39		2110892.050	10.0371096	545	9.9628904	9181.008	39
10.3644679	23145.571	38		2210893.418	10.0371642	546	9.9628358	9179.855	38
10.3641210	23127.091	37		2310894.788	10.0372188	546	9.9627812	9178.701	37
10.3637743	23108.636	36		2410896.159	10.0372734	546	9.9627266	9177.546	36
10.3634278	23090.206	35		2510897.531	10.0373281	547	9.9626719	9176.390	35
10.3630815	23071.801	34		2610898.904	10.0373828	547	9.9626172	9175.234	34
10.3627354	23053.420	33		2710900.279	10.0374376	548	9.9625624	9174.077	33
10.3623894	23035.064	32		2810901.655	10.0374924	548	9.9625076	9172.919	32
10.3620437	23016.732	31		2910903.032	10.0375473	549	9.9624527	9171.760	31
10.3616981	22998.435	30		3010904.411	10.0376022	549	9.9623978	9170.601	30
10.3613527	22980.143	29		3110905.791	10.0376572	550	9.9623428	9169.441	29
10.3610075	22961.885	28		3210907.172	10.0377122	550	9.9622878	9168.288	28
10.3606625	22943.651	27		3310908.554	10.0377672	551	9.9622328	9167.138	27
10.3603177	22925.442	26		3410909.938	10.0378223	551	9.9621777	9165.985	26
10.3599731	22907.257	25		3510911.323	10.0378774	552	9.9621226	9164.791	25
10.3596286	22889.096	24		3610912.709	10.0379326	552	9.9620674	9163.627	24
10.3592844	22870.959	23		3710914.097	10.0379878	553	9.9620122	9162.462	23
10.3589403	22852.846	22		3810915.486	10.0380431	553	9.9619569	9161.296	22
10.3585964	22834.758	21		3910916.876	10.0380984	553	9.9619016	9160.130	21
10.3582527	22816.693	20		4010918.267	10.0381537	554	9.9618463	9158.963	20
10.3579092	22798.653	19		4110919.659	10.0382091	554	9.9617909	9157.795	19
10.3575658	22780.636	18		4210921.053	10.0382645	555	9.9617355	9156.626	18
10.3572227	22762.643	17		4310922.448	10.0383200	555	9.9616802	9155.456	17
10.3568797	22744.674	16		4410923.845	10.0383755	556	9.9616245	9154.286	16
10.3565369	22726.729	15		4510925.243	10.0384311	556	9.9615689	9153.115	15
10.3561943	22708.807	14		4610926.642	10.0384867	557	9.9615133	9151.943	14
10.3558519	22690.909	13		4710928.042	10.0385424	557	9.9614576	9150.770	13
10.3555097	22673.035	12		4810929.444	10.0385980	558	9.9614020	9149.596	12
10.3551676	22655.184	11		4910930.847	10.0386538	558	9.9613463	9148.422	11
10.3548257	22637.357	10		5010932.251	10.0387096	559	9.9612904	9147.247	10
10.3544840	22619.553	9		5110933.656	10.0387654	559	9.9612346	9146.071	9
10.3541425	22601.773	8		5210935.063	10.0388213	559	9.9611787	9144.895	8
10.3538012	22584.016	7		5310936.471	10.0388772	560	9.9611228	9143.718	7
10.3534600	22566.283	6		5410937.880	10.0389332	560	9.9610668	9142.540	6
10.3531190	22548.572	5		5510939.291	10.0389892	560	9.9610104	9141.361	5
10.3527783	22530.885	4		5610940.703	10.0390452	561	9.9609548	9140.181	4
10.3524376	22513.221	3		5710942.116	10.0391013	561	9.9608987	9139.000	3
10.3520972	22495.580	2		5810943.530	10.0391574	562	9.9608426	9137.819	2
10.3517569	22477.962	1		5910944.946	10.0392136	562	9.9607862	9136.637	1
10.3514169	22460.363	0		6010946.363	10.0392698	563	9.9607304	9135.454	0

L. Tan. N. Tan. 66

101 L. Sin N. Sin 66

24	N. Sin.	L. Sin.	Dif.			24	N. Tan.	L. Tan.	Dif.
0	4067.366	9.6093133		10.3906867	24585.933	60	4452.187	9.6485831	
1	4070.023	9.6095969	2836	10.3904031	24569.882	59	14455.773	9.6489230	3398
2	4072.680	9.6098805	2834	10.3901197	24553.833	58	24459.260	9.6492628	3398
3	4075.337	9.6101639	2832	10.3898365	24537.848	57	34462.748	9.6496026	3395
4	4077.993	9.6104465	2830	10.3895535	24521.864	56	44466.337	9.6499417	3394
5	4080.649	9.6107293	2828	10.3892707	24505.905	55	54469.747	9.6502809	3392
6	4083.305	9.6110118	2825	10.3889882	24489.968	54	64473.217	9.6506199	3390
7	4085.960	9.6112941	2823	10.3887059	24474.054	53	74476.708	9.6509587	3388
8	4088.615	9.6115763	2821	10.3884238	24458.163	52	84480.200	9.6512974	3387
9	4091.269	9.6118580	2818	10.3881420	24442.294	51	94483.693	9.6516359	3386
10	4093.923	9.6121397	2817	10.3878603	24426.448	50	104487.187	9.6519742	3382
11	4096.577	9.6124211	2814	10.3875789	24410.624	49	114490.682	9.6523123	3381
12	4099.230	9.6127023	2812	10.3872977	24394.823	48	124494.178	9.6526503	3380
13	4101.883	9.6129833	2810	10.3870167	24379.045	47	134497.675	9.6529881	3378
14	4104.536	9.6132641	2808	10.3867359	24363.289	46	144501.173	9.6533257	3376
15	4107.189	9.6135446	2805	10.3864554	24347.555	45	154504.672	9.6536631	3374
16	4109.841	9.6138250	2804	10.3861750	24331.844	44	164508.172	9.6540004	3373
17	4112.493	9.6141051	2801	10.3858949	24316.155	43	174511.673	9.6543375	3371
18	4115.144	9.6143850	2799	10.3856150	24300.489	42	184515.174	9.6546744	3369
19	4117.795	9.6146647	2797	10.3853353	24284.844	41	194518.676	9.6550112	3368
20	4120.446	9.6149441	2794	10.3850559	24269.222	40	204522.179	9.6553477	3365
21	4123.096	9.6152234	2793	10.3847766	24253.622	39	214525.683	9.6556841	3364
22	4125.746	9.6155024	2790	10.3844976	24238.044	38	224529.188	9.6560204	3363
23	4128.395	9.6157812	2788	10.3842188	24222.488	37	234532.694	9.6563564	3360
24	4131.044	9.6160599	2787	10.3839401	24206.954	36	244536.201	9.6566923	3359
25	4133.693	9.6163382	2783	10.3836618	24191.442	35	254539.709	9.6570280	3357
26	4136.342	9.6166164	2782	10.3833836	24175.952	34	264543.218	9.6573636	3356
27	4138.990	9.6168944	2780	10.3831056	24160.484	33	274546.728	9.6576993	3353
28	4141.638	9.6171721	2777	10.3828279	24145.038	32	284550.239	9.6580341	3352
29	4144.285	9.6174496	2775	10.3825504	24129.613	31	294553.751	9.6583692	3351
30	4146.932	9.6177270	2774	10.3822730	24114.210	30	304557.264	9.6587041	3349
31	4149.579	9.6180041	2771	10.3819959	24098.829	29	314560.777	9.6590387	3346
32	4152.226	9.6182809	2768	10.3817191	24083.469	28	324564.291	9.6593733	3346
33	4154.872	9.6185576	2767	10.3814424	24068.132	27	334567.806	9.6597076	3343
34	4157.518	9.6188341	2765	10.3811659	24052.815	26	344571.322	9.6600418	3342
35	4160.163	9.6191103	2762	10.3808897	24037.520	25	354574.839	9.6603758	3340
36	4162.808	9.6193864	2761	10.3806136	24022.247	24	364578.357	9.6607097	3339
37	4165.453	9.6196622	2758	10.3803378	24006.995	23	374581.876	9.6610434	3337
38	4168.097	9.6199378	2756	10.3800622	23991.764	22	384585.396	9.6613769	3335
39	4170.741	9.6202132	2754	10.3797868	23976.555	21	394588.917	9.6617103	3334
40	4173.384	9.6204884	2752	10.3795116	23961.367	20	404592.439	9.6620434	3331
41	4176.028	9.6207634	2750	10.3792366	23946.201	19	414595.962	9.6623765	3331
42	4178.671	9.6210382	2748	10.3789618	23931.055	18	424599.486	9.6627092	3327
43	4181.313	9.6213127	2745	10.3786873	23915.931	17	434603.011	9.6630420	3327
44	4183.955	9.6215871	2744	10.3784129	23900.828	16	444606.537	9.6633745	3325
45	4186.597	9.6218612	2741	10.3781388	23885.746	15	454610.064	9.6637069	3324
46	4189.239	9.6221351	2739	10.3778649	23870.685	14	464613.591	9.6640391	3322
47	4191.880	9.6224088	2737	10.3775912	23855.645	13	474617.119	9.6643711	3320
48	4194.521	9.6226824	2736	10.3773176	23840.625	12	484620.648	9.6647034	3319
49	4197.161	9.6229557	2733	10.3770443	23825.627	11	494624.178	9.6650346	3316
50	4199.801	9.6232287	2730	10.3767713	23810.650	10	504627.709	9.6653662	3316
51	4202.441	9.6235016	2729	10.3764984	23795.693	9	514631.242	9.6656975	3313
52	4205.080	9.6237743	2727	10.3762257	23780.758	8	524634.776	9.6660288	3313
53	4207.719	9.6240468	2725	10.3759532	23765.843	7	534638.311	9.6663598	3310
54	4210.358	9.6243190	2722	10.3756810	23750.949	6	544641.846	9.6666907	3308
55	4212.996	9.6245911	2721	10.3754089	23736.075	5	554645.382	9.6670214	3307
56	4215.634	9.6248629	2718	10.3751371	23721.222	4	564648.919	9.6673518	3305
57	4218.272	9.6251346	2717	10.3748654	23706.390	3	574652.457	9.6676823	3304
58	4220.909	9.6254060	2714	10.3745940	23691.578	2	584655.996	9.6680126	3302
59	4223.546	9.6256772	2712	10.3743228	23676.782	1	594659.536	9.6683426	3302
60	4226.183	9.6259483	2711	10.3740517	23661.916	0	604663.077	9.6686725	3299
			Dif.	L. Sec.	N. Sec.	65			Dif.

24 N. Sec.			L. Sec.			D.		
10.3514169	21460.368	60	10946.363	10.0392698	563	9.9607302	9135.454	60
10.3510770	21442.796	59	10947.781	10.0393261	563	9.9606739	9134.271	59
10.3507372	21425.247	58	21049.201	10.0393824	564	9.9606176	9133.087	58
10.3503977	21407.721	57	310950.622	10.0394388	564	9.9605612	9131.902	57
10.3500583	21390.218	56	410952.044	10.0394952	564	9.9605048	9130.716	56
10.3497191	21372.738	55	510953.467	10.0395516	565	9.9604484	9129.529	55
10.3493801	21355.280	54	610954.892	10.0396081	565	9.9603919	9128.342	54
10.3490413	21337.845	53	710956.318	10.0396646	565	9.9603354	9127.154	53
10.3487026	21320.433	52	810957.746	10.0397212	566	9.9602788	9125.965	52
10.3483641	21303.043	51	910959.174	10.0397778	567	9.9602222	9124.775	51
10.3480258	21285.676	50	1010960.604	10.0398345	567	9.9601655	9123.584	50
10.3476877	21268.331	49	1110562.036	10.0398912	568	9.9601088	9122.393	49
10.3473497	21251.009	48	1210563.468	10.0399480	568	9.9600520	9121.201	48
10.3470119	21233.709	47	1310964.902	10.0400048	568	9.9599952	9120.008	47
10.3466743	21216.432	46	1410966.337	10.0400616	569	9.9599384	9118.814	46
10.3463369	21199.177	45	1510967.774	10.0401185	569	9.9598815	9117.620	45
10.3459996	21181.944	44	1610969.212	10.0401754	570	9.9598246	9116.425	44
10.3456625	21164.733	43	1710970.651	10.0402324	570	9.9597676	9115.229	43
10.3453256	21147.545	42	1810972.091	10.0402894	571	9.9597106	9114.032	42
10.3449888	21130.379	41	1910973.533	10.0403465	571	9.9596535	9112.835	41
10.3446523	21113.234	40	2010974.976	10.0404036	571	9.9595964	9111.637	40
10.3443159	21096.112	39	2110976.420	10.0404607	572	9.9595393	9110.438	39
10.3439796	21079.012	38	2210977.866	10.0405179	573	9.9594821	9109.238	38
10.3436436	21061.934	37	2310979.313	10.0405752	573	9.9594248	9108.038	37
10.3433077	21044.878	36	2410980.761	10.0406325	573	9.9593675	9106.837	36
10.3429720	21027.843	35	2510982.211	10.0406898	573	9.9593102	9105.635	35
10.3426364	21010.831	34	2610983.662	10.0407472	574	9.9592528	9104.432	34
10.3423011	21993.840	33	2710985.114	10.0408046	574	9.9591954	9103.228	33
10.3419659	21976.871	32	2810986.568	10.0408620	575	9.9591380	9102.024	32
10.3416308	21959.923	31	2910988.023	10.0409195	575	9.9590805	9100.819	31
10.3412960	21942.997	30	3010989.479	10.0409771	576	9.9590229	9099.613	30
10.3409613	21926.093	29	3110990.936	10.0410347	576	9.9589653	9098.406	29
10.3406267	21909.210	28	3210992.395	10.0410923	577	9.9589077	9097.198	28
10.3402924	21892.349	27	3310993.855	10.0411500	577	9.9588500	9095.990	27
10.3399582	21875.510	26	3410995.317	10.0412077	577	9.9587923	9094.781	26
10.3396242	21858.691	25	3510996.779	10.0412655	578	9.9587345	9093.571	25
10.3392903	21841.894	24	3610998.243	10.0413233	579	9.9586767	9092.361	24
10.3389566	21825.119	23	3710999.709	10.0413812	579	9.9586188	9091.150	23
10.3386231	21808.364	22	3811001.176	10.0414391	579	9.9585609	9089.938	22
10.3382897	21791.631	21	3911002.644	10.0414970	580	9.9585030	9088.725	21
10.3379566	21774.920	20	4011004.113	10.0415550	581	9.9584450	9087.511	20
10.3376235	21758.229	19	4111005.584	10.0416131	581	9.9583869	9086.297	19
10.3372907	21741.559	18	4211007.056	10.0416712	581	9.9583288	9085.082	18
10.3369580	21724.911	17	4311008.529	10.0417293	582	9.9582707	9083.866	17
10.3366255	21708.283	16	4411010.004	10.0417875	582	9.9582125	9082.649	16
10.3362931	21691.677	15	4511011.480	10.0418457	582	9.9581543	9081.432	15
10.3359609	21675.091	14	4611012.957	10.0419039	583	9.9580961	9080.214	14
10.3356289	21658.527	13	4711014.436	10.0419622	584	9.9580378	9078.995	13
10.3352970	21641.983	12	4811015.916	10.0420206	584	9.9579794	9077.775	12
10.3349654	21625.460	11	4911017.397	10.0420790	584	9.9579210	9076.554	11
10.3346338	21608.958	10	5011018.879	10.0421374	585	9.9578626	9075.333	10
10.3343025	21592.476	9	5111020.363	10.0421959	585	9.9578041	9074.111	9
10.3339712	21576.015	8	5211021.849	10.0422544	586	9.9577456	9072.888	8
10.3336402	21559.575	7	5311023.335	10.0423130	586	9.9576877	9071.664	7
10.3333093	21543.156	6	5411024.823	10.0423716	587	9.9576294	9070.440	6
10.3329786	21526.757	5	5511026.313	10.0424303	587	9.9575709	9069.215	5
10.3326481	21510.378	4	5611027.803	10.0424890	588	9.9575125	9067.989	4
10.3323177	21494.020	3	5711029.295	10.0425478	588	9.9574542	9066.762	3
10.3319874	21477.683	2	5811030.789	10.0426066	588	9.9573958	9065.535	2
10.3316574	21461.366	1	5911032.283	10.0426654	589	9.9573374	9064.307	1
10.3313275	21445.069	0	6011033.779	10.0427243	589	9.9572797	9063.078	0
L. Tan.	N. Tan	65				D. L. Sin.	N. Sin.	65

25	N. Sin	L. Sin	Dif			25	N. Tan	L. Tan	Dif
0	4226.183	9.6259483		10.3740517	23662.01660	0	4663.077	9.6686725	3298
1	4228.819	9.6262191	2708	10.3737809	23547.26559	1	4666.619	9.6690022	3296
2	4231.455	9.6264897	2706	10.3735103	23632.53558	2	4670.162	9.6693319	3294
3	4234.090	9.6267601	2704	10.3732399	23617.82657	3	4673.706	9.6696613	3292
4	4236.725	9.6270303	2702	10.3729697	23603.13656	4	4677.251	9.6699906	3291
5	4239.360	9.6273003	2700	10.3726997	23588.46755	5	4680.797	9.6703197	3289
6	4241.994	9.6275701	2698	10.3724299	23573.81854	6	4684.343	9.6706486	3288
7	4244.628	9.6278397	2696	10.3721603	23559.18953	7	4687.890	9.6709774	3286
8	4247.262	9.6281090	2693	10.3718910	23544.58152	8	4691.438	9.6713060	3285
9	4249.895	9.6283782	2692	10.3716218	23529.99251	9	4694.988	9.6716345	3283
10	4252.528	9.6286472	2690	10.3713528	23515.42450	10	4698.539	9.6719628	3282
11	4255.161	9.6289160	2688	10.3710840	23500.87549	11	4702.090	9.6722910	3280
12	4257.793	9.6291845	2686	10.3708155	23486.34748	12	4705.643	9.6726190	3278
13	4260.425	9.6294529	2684	10.3705471	23471.83847	13	4709.196	9.6729468	3277
14	4263.056	9.6297211	2682	10.3702789	23457.34946	14	4712.751	9.6732745	3275
15	4265.687	9.6299890	2679	10.3700110	23442.88045	15	4716.306	9.6736020	3274
16	4268.318	9.6302568	2678	10.3697432	23428.43144	16	4719.863	9.6739294	3272
17	4270.949	9.6305243	2675	10.3694757	23414.00243	17	4723.420	9.6742566	3270
18	4273.579	9.6307917	2674	10.3692083	23399.59342	18	4726.978	9.6745836	3269
19	4276.209	9.6310589	2672	10.3689411	23385.20341	19	4730.538	9.6749105	3267
20	4278.838	9.6313258	2669	10.3686742	23370.83340	20	4734.098	9.6752372	3266
21	4281.467	9.6315926	2668	10.3684074	23356.48239	21	4737.659	9.6755638	3264
22	4284.095	9.6318591	2666	10.3681409	23342.15238	22	4741.222	9.6758903	3263
23	4286.723	9.6321255	2664	10.3678745	23327.84037	23	4744.785	9.6762165	3261
24	4289.351	9.6323916	2661	10.3676084	23313.54836	24	4748.349	9.6765426	3260
25	4291.979	9.6326576	2660	10.3673424	23299.27635	25	4751.914	9.6768686	3258
26	4294.606	9.6329232	2657	10.3670767	23285.02334	26	4755.481	9.6771944	3257
27	4297.233	9.6331889	2656	10.3668111	23270.79033	27	4759.048	9.6775201	3255
28	4299.859	9.6334542	2653	10.3665458	23256.57532	28	4762.616	9.6778456	3253
29	4302.485	9.6337194	2652	10.3662806	23242.38131	29	4766.185	9.6781709	3252
30	4305.111	9.6339844	2650	10.3660156	23228.20530	30	4769.755	9.6784961	3250
31	4307.736	9.6342491	2647	10.3657509	23214.04929	31	4773.326	9.6788211	3249
32	4310.361	9.6345137	2645	10.3654863	23199.91128	32	4776.899	9.6791460	3248
33	4312.986	9.6347780	2643	10.3652220	23185.79427	33	4780.472	9.6794708	3245
34	4315.610	9.6350422	2642	10.3649578	23171.69526	34	4784.046	9.6797953	3245
35	4318.234	9.6353062	2640	10.3646938	23157.61525	35	4787.621	9.6801198	3242
36	4320.857	9.6355699	2637	10.3644301	23143.55424	36	4791.197	9.6804440	3242
37	4323.480	9.6358335	2636	10.3641665	23129.51323	37	4794.774	9.6807682	3239
38	4326.103	9.6360969	2634	10.3639031	23115.49022	38	4798.352	9.6810921	3239
39	4328.726	9.6363601	2632	10.3636399	23101.48621	39	4801.932	9.6814160	3236
40	4331.348	9.6366231	2630	10.3633769	23087.50120	40	4805.512	9.6817396	3236
41	4333.970	9.6368859	2628	10.3631141	23073.53519	41	4809.093	9.6820632	3233
42	4336.591	9.6371484	2625	10.3628516	23059.58818	42	4812.675	9.6823865	3233
43	4339.212	9.6374108	2624	10.3625892	23045.66017	43	4816.258	9.6827098	3230
44	4341.833	9.6376731	2623	10.3623269	23031.75116	44	4819.842	9.6830328	3229
45	4344.453	9.6379351	2620	10.3620649	23017.86015	45	4823.427	9.6833557	3228
46	4347.073	9.6381969	2618	10.3618031	23003.98814	46	4827.014	9.6836785	3226
47	4349.692	9.6384585	2616	10.3615415	22990.13413	47	4830.601	9.6840011	3226
48	4352.311	9.6387199	2614	10.3612801	22976.29912	48	4834.189	9.6843236	3223
49	4354.930	9.6389812	2613	10.3610188	22962.48311	49	4837.778	9.6846459	3222
50	4357.548	9.6392422	2610	10.3607578	22948.68510	50	4841.368	9.6849681	3220
51	4360.166	9.6395030	2608	10.3604970	22934.9069	51	4844.959	9.6852901	3219
52	4362.784	9.6397637	2607	10.3602363	22921.1458	52	4848.552	9.6856120	3217
53	4365.401	9.6400241	2604	10.3599759	22907.4037	53	4852.145	9.6859338	3215
54	4368.018	9.6402844	2603	10.3597156	22893.6796	54	4855.739	9.6862553	3215
55	4370.634	9.6405445	2601	10.3594555	22879.9745	55	4859.334	9.6865768	3213
56	4373.250	9.6408044	2599	10.3591956	22866.2864	56	4862.931	9.6868981	3211
57	4375.866	9.6410640	2596	10.3589360	22852.6183	57	4866.528	9.6872192	3210
58	4378.482	9.6413235	2595	10.3586765	22838.9672	58	4870.126	9.6875402	3207
59	4381.097	9.6415828	2593	10.3584172	22825.3341	59	4873.726	9.6878611	3207
60	4383.712	9.6418420	2592	10.3581580	22811.7200	60	4877.324	9.6881818	
			Dif	L. Sec.	N. Sec.				Dif

			25	N. Sec.	L. Sec.	D.			
10.331275	21445.069	60	6	11033.779	10.0427243	589	9.95774757	9063.078	60
10.3309977	21428.793	59	1	11035.277	10.0427832	590	9.9572168	9061.848	59
10.3306681	21412.537	58	2	11036.775	10.0428422	590	9.9571573	9060.617	58
10.3303387	21396.301	57	3	11038.275	10.0429012	591	9.9570988	9059.386	57
10.3300094	21380.085	56	4	11039.777	10.0429603	591	9.9570397	9058.154	56
10.3296803	21363.889	55	5	11041.279	10.0430194	591	9.9569806	9056.921	55
10.3293514	21347.714	54	6	11042.783	10.0430785	591	9.9569215	9055.688	54
10.3290226	21331.559	53	7	11044.289	10.0431377	592	9.9568623	9054.454	53
10.3286940	21315.423	52	8	11045.795	10.0431970	593	9.9568030	9053.219	52
10.3283655	21299.303	51	9	11047.303	10.0432563	593	9.9567437	9051.983	51
10.3280372	21283.213	50	10	11048.813	10.0433156	593	9.9566844	9050.746	50
10.3277090	21267.137	49	11	11050.324	10.0433750	594	9.9566250	9049.509	49
10.3273810	21251.082	48	12	11051.836	10.0434344	594	9.9565656	9048.271	48
10.3270532	21235.046	47	13	11053.349	10.0434939	595	9.9565061	9047.032	47
10.3267255	21219.030	46	14	11054.864	10.0435534	595	9.9564466	9045.792	46
10.3263980	21203.034	45	15	11056.380	10.0436130	596	9.9563870	9044.551	45
10.3260706	21187.057	44	16	11057.898	10.0436726	596	9.9563274	9043.310	44
10.3257434	21171.101	43	17	11059.417	10.0437322	597	9.9562678	9042.068	43
10.3254164	21155.164	42	18	11060.937	10.0437919	597	9.9562081	9040.825	42
10.3250895	21139.246	41	19	11062.458	10.0438517	598	9.9561483	9039.582	41
10.3247628	21123.348	40	20	11063.981	10.0439114	597	9.9560886	9038.338	40
10.3244362	21107.470	39	21	11065.506	10.0439713	599	9.9560287	9037.093	39
10.3241097	21091.611	38	22	11067.031	10.0440311	598	9.9559689	9035.847	38
10.3237835	21075.771	37	23	11068.558	10.0440911	600	9.9559093	9034.600	37
10.3234574	21059.951	36	24	11070.087	10.0441510	599	9.9558490	9033.353	36
10.3231314	21044.150	35	25	11071.616	10.0442110	600	9.9557890	9032.105	35
10.3228056	21028.369	34	26	11073.147	10.0442711	601	9.9557289	9030.856	34
10.3224799	21012.607	33	27	11074.680	10.0443312	601	9.9556688	9029.606	33
10.3221544	20996.864	32	28	11076.214	10.0443913	602	9.9556087	9028.356	32
10.3218291	20981.140	31	29	11077.749	10.0444515	602	9.9555485	9027.105	31
10.3215039	20965.436	30	30	11079.285	10.0445118	602	9.9554882	9025.853	30
10.3211789	20949.751	29	31	11080.823	10.0445720	602	9.9554280	9024.600	29
10.3208540	20934.084	28	32	11082.363	10.0446324	604	9.9553676	9023.347	28
10.3205292	20918.437	27	33	11083.903	10.0446927	603	9.9553073	9022.093	27
10.3202047	20902.809	26	34	11085.444	10.0447531	604	9.9552469	9020.838	26
10.3198802	20887.200	25	35	11086.989	10.0448136	605	9.9551864	9019.582	25
10.3195560	20871.610	24	36	11088.533	10.0448741	605	9.9551259	9018.325	24
10.3192318	20856.039	23	37	11090.079	10.0449347	606	9.9550653	9017.068	23
10.3189079	20840.486	22	38	11091.627	10.0449953	606	9.9550047	9015.810	22
10.3185840	20824.953	21	39	11093.176	10.0450559	607	9.9549441	9014.551	21
10.3182604	20809.438	20	40	11094.726	10.0451166	607	9.9548834	9013.291	20
10.3179368	20793.942	19	41	11096.277	10.0451773	608	9.9548227	9012.031	19
10.3176135	20778.465	18	42	11097.830	10.0452381	608	9.9547619	9010.770	18
10.3172902	20763.007	17	43	11099.385	10.0452989	609	9.9547011	9009.508	17
10.3169672	20747.567	16	44	11100.941	10.0453598	609	9.9546402	9008.245	16
10.3166443	20732.146	15	45	11102.498	10.0454207	610	9.9545793	9006.982	15
10.3163215	20716.743	14	46	11104.056	10.0454816	610	9.9545184	9005.718	14
10.3159989	20701.359	13	47	11105.616	10.0455426	611	9.9544574	9004.453	13
10.3156764	20685.993	12	48	11107.177	10.0456037	611	9.9543963	9003.187	12
10.3153541	20670.646	11	49	11108.740	10.0456648	611	9.9543352	9001.921	11
10.3150319	20655.318	10	50	11110.304	10.0457259	612	9.9542741	9000.654	10
10.3147099	20640.008	9	51	11111.869	10.0457871	612	9.9542129	8999.386	9
10.3143880	20624.716	8	52	11113.436	10.0458483	612	9.9541517	8998.117	8
10.3140662	20609.442	7	53	11115.004	10.0459096	613	9.9540904	8996.848	7
10.3137447	20594.187	6	54	11116.573	10.0459709	613	9.9540291	8995.578	6
10.3134232	20578.950	5	55	11118.144	10.0460323	614	9.9539677	8994.307	5
10.3131019	20563.732	4	56	11119.716	10.0460937	614	9.9539063	8993.035	4
10.3127803	20548.531	3	57	11121.290	10.0461552	615	9.9538448	8991.762	3
10.3124598	20533.349	2	58	11122.865	10.0462167	615	9.9537833	8990.489	2
10.3121389	20518.184	1	59	11124.442	10.0462782	615	9.9537218	8989.215	1
10.3118182	20503.038	0	60	11126.019	10.0463398	616	9.9536602	8987.942	0

L. Tan. | N. Tan. 64

D. | L. Sin. | N. Sin. 64

26	N. Sin.	L. Sin.	Dit			26	N. Ian.	L. Ian.	Dit
0	4383.712	9.6418420	2589	10.3581580	22811.720	60	04877.326	9.6881818	3205
1	4386.326	9.6421009	2587	10.3578991	22798.124	59	14880.927	9.6885023	3204
2	4388.940	9.6423596	2586	10.3576404	22784.546	58	24884.530	9.6888227	3203
3	4391.553	9.6426182	2583	10.3573818	22770.966	57	34888.133	9.6891430	3202
4	4394.166	9.6428765	2582	10.3571235	22757.445	56	44891.737	9.6894631	3200
5	4396.779	9.6431347	2582	10.3568653	22743.921	55	54895.343	9.6897831	3199
6	4399.392	9.6433926	2579	10.3566074	22730.415	54	64898.949	9.6901030	3196
7	4402.004	9.6436504	2578	10.3563496	22716.927	53	74902.557	9.6904226	3196
8	4404.616	9.6439080	2576	10.3560920	22703.457	52	84906.166	9.6907412	3194
9	4407.227	9.6441654	2574	10.3558346	22690.005	51	94909.775	9.6910616	3193
10	4409.838	9.6444226	2572	10.3555774	22676.571	50	104913.386	9.6913809	3191
11	4412.448	9.6446796	2570	10.3553204	22663.155	49	114916.997	9.6917000	3189
12	4415.058	9.6449365	2569	10.3550635	22649.756	48	124920.610	9.6920189	3189
13	4417.668	9.6451931	2566	10.3548069	22636.375	47	134924.224	9.6923378	3187
14	4420.278	9.6454496	2565	10.3545504	22623.012	46	144927.838	9.6926565	3187
15	4422.887	9.6457058	2562	10.3542942	22609.667	45	154931.454	9.6929750	3184
16	4425.495	9.6459619	2561	10.3540381	22596.339	44	164935.071	9.6932934	3183
17	4428.104	9.6462178	2559	10.3537822	22583.029	43	174938.689	9.6936117	3181
18	4430.712	9.6464735	2557	10.3535265	22569.736	42	184942.308	9.6939298	3180
19	4433.320	9.6467290	2555	10.3532710	22556.461	41	194945.928	9.6942478	3178
20	4435.927	9.6469844	2554	10.3530156	22543.204	40	204949.549	9.6945656	3177
21	4438.534	9.6472395	2551	10.3527605	22529.954	39	214953.171	9.6948833	3176
22	4441.140	9.6474945	2550	10.3525055	22516.741	38	224956.794	9.6952009	3174
23	4443.746	9.6477492	2547	10.3522508	22503.535	37	234960.418	9.6955183	3172
24	4446.352	9.6480038	2546	10.3519962	22490.348	36	244964.043	9.6958355	3171
25	4448.957	9.6482582	2544	10.3517418	22477.178	35	254967.669	9.6961527	3170
26	4451.562	9.6485124	2542	10.3514876	22464.024	34	264971.297	9.6964697	3168
27	4454.167	9.6487665	2541	10.3512335	22450.889	33	274974.925	9.6967866	3167
28	4456.771	9.6490203	2538	10.3509797	22437.770	32	284978.554	9.6971032	3166
29	4459.375	9.6492740	2537	10.3507260	22424.669	31	294982.185	9.6974198	3166
30	4461.978	9.6495274	2534	10.3504726	22411.584	30	304985.816	9.6977363	3163
31	4464.581	9.6497807	2533	10.3502193	22398.517	29	314989.449	9.6980526	3161
32	4467.184	9.6500338	2531	10.3499662	22385.467	28	324993.082	9.6983687	3160
33	4469.786	9.6502868	2530	10.3497132	22372.435	27	334996.717	9.6986847	3159
34	4472.388	9.6505395	2527	10.3494605	22359.419	26	345000.352	9.6990006	3158
35	4474.990	9.6507920	2525	10.3492080	22346.420	25	355003.989	9.6993164	3156
36	4477.591	9.6510444	2524	10.3489556	22333.438	24	365007.627	9.6996320	3154
37	4480.192	9.6512966	2522	10.3487034	22320.474	23	375011.266	9.6999474	3154
38	4482.792	9.6515486	2520	10.3484514	22307.526	22	385014.906	9.7002628	3152
39	4485.392	9.6518004	2517	10.3481996	22294.595	21	395018.547	9.7005780	3150
40	4487.992	9.6520521	2514	10.3479479	22281.681	20	405022.189	9.7008930	3150
41	4490.591	9.6523035	2514	10.3476965	22268.782	19	415025.832	9.7012080	3147
42	4493.190	9.6525548	2513	10.3474452	22255.903	18	425029.476	9.7015227	3147
43	4495.789	9.6528059	2511	10.3471941	22243.039	17	435033.121	9.7018374	3145
44	4498.387	9.6530568	2509	10.3469432	22230.192	16	445036.767	9.7021519	3144
45	4500.985	9.6533075	2507	10.3466925	22217.362	15	455040.415	9.7024663	3142
46	4503.582	9.6535581	2506	10.3464419	22204.548	14	465044.063	9.7027805	3141
47	4506.179	9.6538084	2503	10.3461916	22191.751	13	475047.713	9.7030946	3140
48	4508.776	9.6540586	2502	10.3459414	22178.971	12	485051.363	9.7034086	3139
49	4511.372	9.6543086	2500	10.3456914	22166.207	11	495055.015	9.7037225	3137
50	4513.968	9.6545584	2498	10.3454416	22153.460	10	505058.668	9.7040362	3135
51	4516.563	9.6548081	2497	10.3451919	22140.730	9	515062.322	9.7043497	3135
52	4519.158	9.6550575	2494	10.3449425	22128.016	8	525065.977	9.7046632	3132
53	4521.753	9.6553068	2493	10.3446932	22115.318	7	535069.633	9.7049765	3132
54	4524.347	9.6555559	2491	10.3444441	22102.637	6	545073.290	9.7052897	3130
55	4526.941	9.6558048	2489	10.3441952	22089.972	5	555076.948	9.7056027	3128
56	4529.535	9.6560535	2488	10.3439464	22077.323	4	565080.607	9.7059156	3128
57	4532.128	9.6563021	2485	10.3436979	22064.691	3	575084.267	9.7062284	3126
58	4534.721	9.6565505	2482	10.3434495	22052.075	2	585087.928	9.7065410	3125
59	4537.313	9.6567987	2481	10.3432013	22039.476	1	595091.591	9.7068535	3124
60	4539.905	9.6570468	2481	10.3429532	22026.893	0	605095.254	9.7071659	
			Dit	L. Sec.	N. Sec.	63			Dit

			26 N. Sec.	L. Sec.	D.			
10.3118182	20503.038	60	011126.019	10.0463398	617	9.9536621	8987.940	60
10.3114977	20487.910	59	111127.598	10.0464015	618	9.9535985	8986.665	59
10.3111773	20472.800	58	211139.179	10.0464631	619	9.9535369	8985.389	58
10.3108570	20457.708	57	311130.761	10.0465249	618	9.9534751	8984.112	57
10.3105369	20442.634	56	411132.345	10.0465866	619	9.9534134	8982.834	56
10.3102169	20427.578	55	511133.930	10.0466483	618	9.9533515	8981.555	55
10.3098970	20412.540	54	611135.516	10.0467103	619	9.9532897	8980.276	54
10.3095774	20397.519	53	711137.103	10.0467722	620	9.9532278	8978.996	53
10.3092578	20382.517	52	811138.692	10.0468344	620	9.9531658	8977.715	52
10.3089384	20367.532	51	911140.282	10.0468962	621	9.9531038	8976.433	51
10.3086191	20352.565	50	101141.874	10.0469582	621	9.9530418	8975.151	50
10.3083000	20337.615	49	111143.467	10.0470203	622	9.9529797	8973.868	49
10.3079811	20322.683	48	121145.062	10.0470825	622	9.9529175	8972.584	48
10.3076622	20307.769	47	131146.658	10.0471447	623	9.9528553	8971.299	47
10.3073435	20292.873	46	141148.255	10.0472069	623	9.9527931	8970.013	46
10.3070250	20277.994	45	151149.854	10.0472692	624	9.9527308	8968.727	45
10.3067066	20263.132	44	161151.454	10.0473315	624	9.9526685	8967.440	44
10.3063883	20248.289	43	171153.056	10.0473939	624	9.9526061	8966.152	43
10.3060702	20233.462	42	181154.659	10.0474563	624	9.9525437	8964.864	42
10.3057522	20218.653	41	191156.263	10.0475187	625	9.9524813	8963.575	41
10.3054344	20203.862	40	201157.869	10.0475812	625	9.9524188	8962.285	40
10.3051167	20189.088	39	211159.476	10.0476438	626	9.9523562	8960.994	39
10.3047991	20174.331	38	221161.084	10.0477064	626	9.9522937	8959.703	38
10.3044817	20159.592	37	231162.694	10.0477690	627	9.9522310	8958.411	37
10.3041645	20144.869	36	241164.306	10.0478317	627	9.9521683	8957.118	36
10.3038473	20130.164	35	251165.919	10.0478945	628	9.9521055	8955.824	35
10.3035303	20115.477	34	261167.533	10.0479572	629	9.9520428	8954.529	34
10.3032135	20100.806	33	271169.149	10.0480200	629	9.9519799	8953.234	33
10.3028968	20086.153	32	281170.766	10.0480829	630	9.9519171	8951.938	32
10.3025802	20071.516	31	291172.384	10.0481459	630	9.9518541	8950.641	31
10.3022637	20056.897	30	301174.004	10.0482088	631	9.9517912	8949.343	30
10.3019474	20042.295	29	311175.625	10.0482718	631	9.9517282	8948.045	29
10.3016313	20027.710	28	321177.248	10.0483349	632	9.9516651	8946.747	28
10.3013153	20013.142	27	331178.872	10.0483980	632	9.9516020	8945.446	27
10.3009994	19998.590	26	341180.498	10.0484611	633	9.9515389	8944.145	26
10.3006836	19984.056	25	351182.125	10.0485243	633	9.9514757	8942.844	25
10.3003680	19969.539	24	361183.753	10.0485876	634	9.9514124	8941.542	24
10.3000526	19955.038	23	371185.383	10.0486508	634	9.9513492	8940.239	23
10.2997372	19940.554	22	381187.014	10.0487142	635	9.9512858	8938.936	22
10.2994220	19926.087	21	391188.647	10.0487776	635	9.9512224	8937.632	21
10.2991070	19911.637	20	401190.281	10.0488410	636	9.9511590	8936.327	20
10.2987920	19897.204	19	411191.916	10.0489044	636	9.9510955	8935.021	19
10.2984773	19882.787	18	421193.553	10.0489680	637	9.9510320	8933.714	18
10.2981626	19868.387	17	431195.191	10.0490315	637	9.9509685	8932.406	17
10.2978481	19854.003	16	441196.831	10.0490951	638	9.9509049	8931.098	16
10.2975337	19839.636	15	451198.472	10.0491588	638	9.9508412	8929.789	15
10.2972195	19825.286	14	4611200.115	10.0492225	639	9.9507775	8928.479	14
10.2969054	19810.952	13	4711201.759	10.0492862	639	9.9507138	8927.169	13
10.2965914	19796.635	12	4811203.405	10.0493500	640	9.9506500	8925.858	12
10.2962775	19782.334	11	4911205.052	10.0494139	640	9.9505861	8924.546	11
10.2959633	19768.050	10	5011206.700	10.0494777	641	9.9505223	8923.235	10
10.2956503	19753.782	9	5111208.350	10.0495417	641	9.9504583	8921.920	9
10.2953368	19739.531	8	5211210.001	10.0496056	642	9.9503944	8920.606	8
10.2950235	19725.297	7	5311211.653	10.0496697	642	9.9503303	8919.291	7
10.2947103	19711.077	6	5411213.307	10.0497337	643	9.9502663	8917.975	6
10.2943973	19696.874	5	5511214.963	10.0497978	643	9.9502022	8916.659	5
10.2940844	19682.688	4	5611216.620	10.0498620	644	9.9501380	8915.342	4
10.2937715	19668.518	3	5711218.278	10.0499262	644	9.9500738	8914.024	3
10.2934590	19654.364	2	5811219.938	10.0499905	645	9.9500095	8912.705	2
10.2931465	19640.227	1	5911221.600	10.0500548	645	9.9499452	8911.385	1
10.2928341	19626.105	0	6011223.263	10.0501191	646	9.9498809	8910.065	0
L. Tan.	N. Tan.	62				D. L. Sin.	N. Sin.	63

27	N. Sin	L. Sin.	Dif.			27	N. Tan.	L. Tan.	Dif.
0	4539.905	9.6570468		10.4329532	22026.892	60	05095.254	9.7071659	3122
1	4542.497	9.6572945	2478	10.3427054	22014.326	59	15098.919	9.7074781	3121
2	4545.088	9.6575423	2477	10.3424577	22001.775	58	25102.585	9.7077902	3120
3	4547.679	9.6577898	2475	10.3422102	21989.240	57	35106.252	9.7081022	3118
4	4550.269	9.6580371	2473	10.3419629	21976.721	56	45109.919	9.7084141	3117
5	4552.859	9.6582842	2471	10.3417158	21964.219	55	55113.588	9.7087258	3116
6	4555.449	9.6585312	2470	10.3414688	21951.733	54	65117.259	9.7090374	3114
7	4558.038	9.6587780	2468	10.3412220	21939.262	53	75120.930	9.7093488	3113
8	4560.627	9.6590246	2466	10.3409754	21926.803	52	85124.602	9.7096601	3112
9	4563.216	9.6592710	2464	10.3407290	21914.370	51	95128.275	9.7099713	3111
10	4565.804	9.6595173	2463	10.3404827	21901.947	50	105131.950	9.7102824	3109
11	4568.392	9.6597634	2461	10.3402367	21889.541	49	115135.625	9.7105933	3108
12	4570.979	9.6600092	2459	10.3399907	21877.150	48	125139.302	9.7109041	3107
13	4573.566	9.6602550	2457	10.3397450	21864.775	47	135142.980	9.7112148	3106
14	4576.153	9.6605005	2455	10.3394995	21852.417	46	145146.678	9.7115254	3104
15	4578.739	9.6607459	2454	10.3392541	21840.074	45	155150.338	9.7118358	3103
16	4581.325	9.6609911	2452	10.3390088	21827.746	44	165154.019	9.7121461	3101
17	4583.910	9.6612361	2450	10.3387639	21815.435	43	175157.702	9.7124562	3100
18	4586.495	9.6614810	2449	10.3385190	21803.139	42	185161.385	9.7127662	3099
19	4589.080	9.6617257	2447	10.3382743	21790.859	41	195165.069	9.7130761	3098
20	4591.664	9.6619702	2445	10.3380298	21778.594	40	205168.755	9.7133859	3097
21	4594.248	9.6622145	2443	10.3377855	21766.346	39	215172.441	9.7136956	3095
22	4596.832	9.6624586	2441	10.3375414	21754.112	38	225176.129	9.7140051	3094
23	4599.415	9.6627026	2440	10.3372974	21741.895	37	235179.818	9.7143145	3092
24	4601.998	9.6629464	2438	10.3370536	21729.693	36	245183.508	9.7146237	3091
25	4604.580	9.6631900	2436	10.3368100	21717.506	35	255187.199	9.7149329	3090
26	4607.162	9.6634335	2435	10.3365665	21705.335	34	265190.891	9.7152419	3089
27	4609.744	9.6636768	2433	10.3363232	21693.180	33	275194.584	9.7155508	3087
28	4612.325	9.6639199	2431	10.3360801	21681.040	32	285198.278	9.7158595	3086
29	4614.906	9.6641628	2429	10.3358372	21668.915	31	295201.974	9.7161682	3085
30	4617.486	9.6644056	2428	10.3355944	21656.806	30	305205.670	9.7164767	3084
31	4620.066	9.6646482	2426	10.3353518	21644.712	29	315209.368	9.7167851	3082
32	4622.646	9.6648906	2424	10.3351094	21632.633	28	325213.067	9.7170933	3081
33	4625.225	9.6651329	2423	10.3348671	21620.570	27	335216.767	9.7174014	3080
34	4627.804	9.6653749	2420	10.3346251	21608.522	26	345220.468	9.7177094	3079
35	4630.382	9.6656168	2419	10.3343832	21596.489	25	355224.170	9.7180173	3078
36	4632.960	9.6658586	2418	10.3341414	21584.471	24	365227.874	9.7183251	3076
37	4635.538	9.6661001	2415	10.3338999	21572.469	23	375231.578	9.7186327	3075
38	4638.115	9.6663415	2414	10.3336585	21560.482	22	385235.284	9.7189402	3074
39	4640.692	9.6665828	2413	10.3334172	21548.510	21	395238.990	9.7192476	3073
40	4643.269	9.6668238	2410	10.3331762	21536.553	20	405242.698	9.7195549	3071
41	4645.845	9.6670647	2409	10.3329353	21524.611	19	415246.407	9.7198620	3070
42	4648.421	9.6673054	2407	10.3326946	21512.684	18	425250.117	9.7201690	3069
43	4650.996	9.6675459	2405	10.3324541	21500.772	17	435253.829	9.7204759	3068
44	4653.571	9.6677863	2404	10.3322137	21488.875	16	445257.541	9.7207827	3066
45	4656.145	9.6680266	2402	10.3319735	21476.993	15	455261.254	9.7210893	3065
46	4658.719	9.6682665	2400	10.3317335	21465.127	14	465264.969	9.7213958	3064
47	4661.293	9.6685064	2399	10.3314936	21453.275	13	475268.685	9.7217022	3063
48	4663.866	9.6687461	2397	10.3312539	21441.437	12	485272.402	9.7220085	3062
49	4666.439	9.6689856	2395	10.3310144	21429.615	11	495276.120	9.7223147	3060
50	4669.012	9.6692250	2394	10.3307750	21417.808	10	505279.839	9.7226207	3059
51	4671.584	9.6694642	2392	10.3305358	21406.015	9	515283.559	9.7229266	3058
52	4674.156	9.6697032	2390	10.3302968	21394.238	8	525287.281	9.7232324	3057
53	4676.727	9.6699420	2388	10.3300580	21382.475	7	535291.004	9.7235381	3055
54	4679.298	9.6701807	2387	10.3298193	21370.726	6	545294.727	9.7238436	3054
55	4681.869	9.6704192	2385	10.3295808	21358.993	5	555298.452	9.7241490	3053
56	4684.439	9.6706576	2384	10.3293424	21347.274	4	565302.178	9.7244543	3052
57	4687.009	9.6708958	2382	10.3291042	21335.570	3	575305.906	9.7247595	3051
58	4689.578	9.6711338	2380	10.3288662	21323.880	2	585309.634	9.7250646	3049
59	4692.147	9.6713716	2378	10.3286284	21312.205	1	595313.364	9.7253695	3048
60	4694.716	9.6716093	2377	10.3283907	21300.545	0	605317.094	9.7256744	3047

27 N. Sec.			L. Sec.			D.		
10.2928241	19626.105	60	0 11223.262	10.0501191	644	9.9498809	8910.065	60
10.29251219	19612.000	59	1 11224.926	10.0501835	644	9.9498165	8908.744	59
10.2922098	19597.510	58	2 11226.592	10.0502479	645	9.9497521	8907.422	58
10.2918978	19583.837	57	3 11228.259	10.0503124	645	9.9496876	8906.100	57
10.2915859	19569.780	56	4 11229.928	10.0503770	645	9.9496230	8904.777	56
10.2912742	19555.739	55	5 11231.598	10.0504415	647	9.9495585	8903.453	55
10.2909626	19541.713	54	6 11233.269	10.0505061	647	9.9494938	8902.128	54
10.2906512	19527.704	53	7 11234.942	10.0505708	646	9.9494292	8900.802	53
10.2903399	19513.711	52	8 11236.616	10.0506355	647	9.9493645	8899.476	52
10.2900287	19499.733	51	9 11238.292	10.0507003	648	9.9492997	8898.149	51
10.2897176	19485.771	50	10 11239.969	10.0507651	648	9.9492349	8896.821	50
10.2894067	19471.826	49	11 11241.648	10.0508300	649	9.9491700	8895.493	49
10.2890959	19457.896	48	12 11243.328	10.0508949	649	9.9491051	8894.164	48
10.2887852	19443.981	47	13 11245.010	10.0509598	649	9.9490402	8892.834	47
10.2884746	19430.083	46	14 11246.693	10.0510248	650	9.9489752	8891.503	46
10.2881642	19416.200	45	15 11248.377	10.0510899	651	9.9489101	8890.171	45
10.2878539	19402.333	44	16 11250.063	10.0511550	651	9.9488450	8888.839	44
10.2875438	19388.481	43	17 11251.750	10.0512201	651	9.9487799	8887.506	43
10.2872338	19374.645	42	18 11253.439	10.0512852	652	9.9487147	8886.172	42
10.2869239	19360.825	41	19 11255.129	10.0513503	652	9.9486495	8884.837	41
10.2866141	19347.020	40	20 11256.821	10.0514158	653	9.9485842	8883.502	40
10.2863044	19333.231	39	21 11258.514	10.0514811	653	9.9485189	8882.166	39
10.2859949	19319.457	38	22 11260.209	10.0515465	654	9.9484535	8880.829	38
10.2856855	19305.698	37	23 11261.905	10.0516119	654	9.9483881	8879.492	37
10.2853763	19291.956	36	24 11263.603	10.0516773	655	9.9483227	8878.154	36
10.2850671	19278.228	35	25 11265.302	10.0517428	656	9.9482572	8876.815	35
10.2847581	19264.516	34	26 11267.003	10.0518084	656	9.9481916	8875.475	34
10.2844492	19250.819	33	27 11268.705	10.0518740	656	9.9481260	8874.134	33
10.2841405	19237.138	32	28 11270.408	10.0519396	657	9.9480604	8872.793	32
10.2838318	19223.472	31	29 11272.113	10.0520053	658	9.9479947	8871.451	31
10.2835233	19209.821	30	30 11273.819	10.0520711	658	9.9479289	8870.108	30
10.2832149	19196.186	29	31 11275.527	10.0521369	658	9.9478631	8868.764	29
10.2829067	19182.565	28	32 11277.237	10.0522027	659	9.9477973	8867.420	28
10.2825986	19168.960	27	33 11278.948	10.0522686	659	9.9477314	8866.075	27
10.2822906	19155.370	26	34 11280.660	10.0523345	659	9.9476655	8864.729	26
10.2819827	19141.795	25	35 11282.374	10.0524005	660	9.9475995	8863.383	25
10.2816749	19128.236	24	36 11284.089	10.0524665	661	9.9475335	8862.036	24
10.2813673	19114.691	23	37 11285.806	10.0525326	661	9.9474674	8860.688	23
10.2810598	19101.162	22	38 11287.524	10.0525987	661	9.9474013	8859.339	22
10.2807524	19087.647	21	39 11289.244	10.0526648	662	9.9473352	8857.989	21
10.2804451	19074.147	20	40 11290.965	10.0527311	662	9.9472693	8856.639	20
10.2801380	19060.663	19	41 11292.688	10.0527973	663	9.9472037	8855.288	19
10.2798310	19047.193	18	42 11294.412	10.0528636	664	9.9471364	8853.936	18
10.2795241	19033.738	17	43 11296.137	10.0529300	664	9.9470700	8852.583	17
10.2792173	19020.299	16	44 11297.864	10.0529964	664	9.9470036	8851.230	16
10.2789107	19006.874	15	45 11299.593	10.0530628	665	9.9469372	8849.876	15
10.2786042	18993.464	14	46 11301.323	10.0531293	665	9.9468707	8848.521	14
10.2782978	18980.068	13	47 11303.055	10.0531958	666	9.9468042	8847.166	13
10.2779915	18966.688	12	48 11304.788	10.0532624	666	9.9467376	8845.810	12
10.2776853	18953.322	11	49 11306.522	10.0533290	667	9.9466710	8844.453	11
10.2773793	18939.971	10	50 11308.258	10.0533957	667	9.9466043	8843.095	10
10.2770734	18926.634	9	51 11309.996	10.0534624	668	9.9465376	8841.736	9
10.2767676	18913.313	8	52 11311.735	10.0535292	668	9.9464708	8840.377	8
10.2764619	18900.005	7	53 11313.475	10.0535960	669	9.9464040	8839.017	7
10.2761564	18886.713	6	54 11315.217	10.0536629	669	9.9463371	8837.656	6
10.2758510	18873.436	5	55 11316.961	10.0537298	670	9.9462702	8836.294	5
10.2755457	18860.172	4	56 11318.706	10.0537968	670	9.9462032	8834.932	4
10.2752405	18846.924	3	57 11320.452	10.0538638	670	9.9461362	8833.569	3
10.2749354	18833.650	2	58 11322.200	10.0539308	671	9.9460692	8832.205	2
10.2746305	18820.470	1	59 11323.950	10.0539979	672	9.9460021	8830.841	1
10.2743256	18807.265	0	60 11325.701	10.0540651	672	9.9459349	8829.476	0
L. Tan.	N. Tan.	62				D. L. Sin.	N. Sin.	62

28	N. Sin.	L. Sin.	Dif.				28	N. Tan.	L. Tan.	Dif.
0	4694.716	9.6716093		10.3283907	21300.545	60	0	5317.094	9.7256744	
1	4697.284	9.6718468	2375	10.3281532	21288.899	59	1	5320.826	9.7259791	3047
2	4699.852	9.6720841	2373	10.3279159	21277.267	58	2	5324.559	9.7262837	3046
3	4702.419	9.6723213	2372	10.3276787	21265.651	57	3	5328.293	9.7265881	3044
4	4704.986	9.6725583	2370	10.3274417	21254.048	56	4	5332.029	9.7268925	3044
5	4707.553	9.6727952	2369	10.3272048	21242.460	55	5	5335.765	9.7271967	3042
6	4710.119	9.6730319	2367	10.3269681	21230.887	54	6	5339.503	9.7275008	3041
7	4712.685	9.6732684	2365	10.3267316	21219.328	53	7	5343.242	9.7278048	3040
8	4715.250	9.6735047	2363	10.3264953	21207.783	52	8	5346.982	9.7281087	3039
9	4717.815	9.6737409	2362	10.3262591	21196.253	51	9	5350.723	9.7284124	3037
10	4720.380	9.6739769	2360	10.3260231	21184.737	50	10	5354.465	9.7287161	3037
11	4722.944	9.6742128	2359	10.3257872	21173.235	49	11	5358.208	9.7290196	3035
12	4725.508	9.6744485	2357	10.3255515	21161.748	48	12	5361.953	9.7293230	3034
13	4728.071	9.6746840	2355	10.3253160	21150.274	47	13	5365.699	9.7296263	3033
14	4730.634	9.6749194	2354	10.3250806	21138.815	46	14	5369.446	9.7299292	3032
15	4733.197	9.6751546	2352	10.3248454	21127.371	45	15	5373.194	9.7302325	3030
16	4735.759	9.6753896	2350	10.3246104	21115.940	44	16	5376.943	9.7305354	3029
17	4738.321	9.6756245	2349	10.3243756	21104.523	43	17	5380.694	9.7308383	3027
18	4740.882	9.6758592	2347	10.3241408	21093.121	42	18	5384.445	9.7311410	3026
19	4743.443	9.6760937	2345	10.3239063	21081.733	41	19	5388.198	9.7314433	3024
20	4746.004	9.6763281	2344	10.3236719	21070.359	40	20	5391.951	9.7317466	3024
21	4748.564	9.6765623	2342	10.3234377	21058.998	39	21	5395.707	9.7320498	3022
22	4751.124	9.6767963	2340	10.3232037	21047.652	38	22	5399.464	9.7323528	3021
23	4753.683	9.6770302	2339	10.3229698	21036.320	37	23	5403.221	9.7326557	3020
24	4756.242	9.6772640	2338	10.3227360	21025.002	36	24	5406.980	9.7329584	3019
25	4758.801	9.6774975	2335	10.3225025	21013.698	35	25	5410.740	9.7332606	3018
26	4761.359	9.6777309	2334	10.3222691	21002.408	34	26	5414.501	9.7335624	3017
27	4763.917	9.6779642	2333	10.3220358	20991.131	33	27	5418.263	9.7338641	3016
28	4766.474	9.6781972	2332	10.3218028	20979.869	32	28	5422.027	9.7341656	3015
29	4769.031	9.6784301	2329	10.3215694	20968.620	31	29	5425.791	9.7344671	3013
30	4771.588	9.6786629	2328	10.3213371	20957.385	30	30	5429.557	9.7347684	3012
31	4774.144	9.6788955	2326	10.3211045	20946.164	29	31	5433.324	9.7350695	3011
32	4776.700	9.6791279	2324	10.3208721	20934.957	28	32	5437.092	9.7353702	3010
33	4779.255	9.6793602	2323	10.3206398	20923.764	27	33	5440.862	9.7356707	3008
34	4781.810	9.6795923	2321	10.3204077	20912.584	26	34	5444.634	9.7359708	3008
35	4784.364	9.6798243	2320	10.3201757	20901.418	25	35	5448.404	9.7362693	3006
36	4786.918	9.6800560	2317	10.3199440	20890.265	24	36	5452.177	9.7365693	3006
37	4789.472	9.6802877	2317	10.3197123	20879.127	23	37	5455.951	9.7368697	3004
38	4792.026	9.6805191	2314	10.3194809	20868.002	22	38	5459.726	9.7371703	3003
39	4794.579	9.6807504	2313	10.3192496	20856.890	21	39	5463.503	9.7374712	3002
40	4797.131	9.6809816	2312	10.3190184	20845.792	20	40	5467.281	9.7377714	3001
41	4799.683	9.6812126	2310	10.3187874	20834.708	19	41	5471.060	9.7380719	2999
42	4802.235	9.6814434	2308	10.3185566	20823.637	18	42	5474.840	9.7383716	2997
43	4804.786	9.6816741	2307	10.3183259	20812.580	17	43	5478.621	9.7386715	2997
44	4807.337	9.6819046	2305	10.3180954	20801.536	16	44	5482.404	9.7389710	2997
45	4809.888	9.6821349	2303	10.3178651	20790.506	15	45	5486.188	9.7392707	2995
46	4812.438	9.6823651	2302	10.3176349	20779.489	14	46	5489.973	9.7395702	2994
47	4814.988	9.6825952	2301	10.3174048	20768.486	13	47	5493.759	9.7398696	2993
48	4817.537	9.6828250	2298	10.3171750	20757.496	12	48	5497.546	9.7401689	2992
49	4820.086	9.6830548	2298	10.3169452	20746.519	11	49	5501.335	9.7404681	2991
50	4822.634	9.6832843	2295	10.3167157	20735.556	10	50	5505.125	9.7407671	2990
51	4825.182	9.6835137	2294	10.3164863	20724.606	9	51	5508.916	9.7410662	2988
52	4827.730	9.6837430	2293	10.3162570	20713.670	8	52	5512.708	9.7413650	2988
53	4830.277	9.6839720	2290	10.3160280	20702.746	7	53	5516.500	9.7416638	2986
54	4832.824	9.6842010	2290	10.3157990	20691.836	6	54	5520.297	9.7419624	2985
55	4835.370	9.6844297	2287	10.3155703	20680.940	5	55	5524.093	9.7422609	2985
56	4837.916	9.6846583	2286	10.3153417	20670.056	4	56	5527.890	9.7425594	2983
57	4840.462	9.6848868	2285	10.3151132	20659.186	3	57	5531.688	9.7428577	2982
58	4843.007	9.6851151	2281	10.3148849	20648.328	2	58	5535.488	9.7431559	2981
59	4845.552	9.6853432	2280	10.3146568	20637.484	1	59	5539.288	9.7434540	2980
60	4848.096	9.6855712	2280	10.3144288	20626.653	0	60	5543.090	9.7437520	
			Dif.	L. Sec.	N. Sec.	61				Dif.

			28	N. Sec.	L. Sec.	D.			
10.2742256	18807.265	60	0	11325.701	10.0540651	672	9.9459349	8829.476	60
10.2740209	18794.074	59	1	11327.453	10.0541323	672	9.9458677	8828.110	59
10.2737163	18780.898	58	2	11329.207	10.0541995	672	9.9458005	8826.743	58
10.2734119	18767.736	57	3	11330.962	10.0542668	673	9.9457332	8825.375	57
10.2731075	18754.588	56	4	11332.719	10.0543341	673	9.9456659	8824.007	56
10.2728033	18741.455	55	5	11334.478	10.0544015	674	9.9455985	8822.638	55
10.2724992	18728.336	54	6	11336.238	10.0544690	675	9.9455310	8821.268	54
10.2721952	18715.221	53	7	11337.999	10.0545364	674	9.9454636	8819.898	53
10.2718913	18702.141	52	8	11339.762	10.0546040	676	9.9453960	8818.527	52
10.2715876	18689.064	51	9	11341.527	10.0546715	675	9.9453285	8817.155	51
10.2712839	18676.003	50	10	11343.293	10.0547391	676	9.9452609	8815.782	50
10.2709804	18662.955	49	11	11345.060	10.0548068	677	9.9451932	8814.409	49
10.2706770	18649.921	48	12	11346.829	10.0548745	677	9.9451255	8813.035	48
10.2703737	18636.902	47	13	11348.600	10.0549423	678	9.9450577	8811.660	47
10.2700705	18623.896	46	14	11350.372	10.0550101	678	9.9449899	8810.284	46
10.2697675	18610.905	45	15	11352.146	10.0550780	679	9.9449220	8808.907	45
10.2694646	18597.928	44	16	11353.921	10.0551459	679	9.9448541	8807.530	44
10.2691617	18584.965	43	17	11355.698	10.0552138	679	9.9447862	8806.152	43
10.2688590	18572.015	42	18	11357.476	10.0552818	680	9.9447182	8804.773	42
10.2685564	18559.080	41	19	11359.255	10.0553499	681	9.9446501	8803.394	41
10.2682540	18546.159	40	20	11361.036	10.0554179	680	9.9445821	8802.014	40
10.2679516	18533.252	39	21	11362.819	10.0554861	682	9.9445139	8800.633	39
10.2676494	18520.358	38	22	11364.603	10.0555543	682	9.9444457	8799.251	38
10.2673473	18507.479	37	23	11366.389	10.0556225	683	9.9443775	8797.869	37
10.2670453	18494.613	36	24	11368.176	10.0556908	683	9.9443092	8796.486	36
10.2667434	18481.761	35	25	11369.965	10.0557591	683	9.9442409	8795.102	35
10.2664416	18468.923	34	26	11371.755	10.0558275	684	9.9441725	8793.717	34
10.2661399	18456.099	33	27	11373.547	10.0558959	685	9.9441041	8792.332	33
10.2658384	18443.289	32	28	11375.340	10.0559644	685	9.9440356	8790.946	32
10.2655369	18430.492	31	29	11377.135	10.0560329	686	9.9439671	8789.559	31
10.2652356	18417.709	30	30	11378.932	10.0561015	686	9.9438985	8788.171	30
10.2649344	18404.939	29	31	11380.730	10.0561701	687	9.9438299	8786.783	29
10.2646333	18392.184	28	32	11382.529	10.0562388	687	9.9437612	8785.394	28
10.2643323	18379.442	27	33	11384.330	10.0563075	687	9.9436925	8784.004	27
10.2640315	18366.713	26	34	11386.133	10.0563762	689	9.9436238	8782.613	26
10.2637307	18353.999	25	35	11387.937	10.0564451	688	9.9435549	8781.222	25
10.2634301	18341.297	24	36	11389.743	10.0565139	689	9.9434861	8779.830	24
10.2631295	18328.610	23	37	11391.550	10.0565828	690	9.9434172	8778.437	23
10.2628288	18315.936	22	38	11393.359	10.0566518	690	9.9433482	8777.043	22
10.2625282	18303.275	21	39	11395.169	10.0567208	690	9.9432792	8775.649	21
10.2622286	18290.628	20	40	11396.981	10.0567899	691	9.9432102	8774.254	20
10.2619285	18277.994	19	41	11398.794	10.0568589	691	9.9431411	8772.858	19
10.2616286	18265.374	18	42	11400.609	10.0569280	692	9.9430720	8771.461	18
10.2613287	18252.767	17	43	11402.425	10.0569972	692	9.9430028	8770.064	17
10.2610290	18240.175	16	44	11404.243	10.0570665	692	9.9429335	8768.666	16
10.2607293	18227.593	15	45	11406.062	10.0571357	694	9.9428643	8767.267	15
10.2604298	18215.026	14	46	11407.883	10.0572051	694	9.9427949	8765.868	14
10.2601304	18202.473	13	47	11409.706	10.0572745	694	9.9427255	8764.468	13
10.2598311	18189.932	12	48	11411.530	10.0573439	695	9.9426561	8763.057	12
10.2595319	18177.405	11	49	11413.356	10.0574134	695	9.9425866	8761.645	11
10.2592328	18164.892	10	50	11415.183	10.0574829	695	9.9425171	8760.232	10
10.2589338	18152.391	9	51	11417.012	10.0575524	697	9.9424476	8758.819	9
10.2586350	18139.904	8	52	11418.842	10.0576221	696	9.9423779	8757.405	8
10.2583362	18127.430	7	53	11420.674	10.0576917	697	9.9423083	8755.990	7
10.2580376	18114.969	6	54	11422.507	10.0577614	698	9.9422386	8754.575	6
10.2577391	18102.521	5	55	11424.342	10.0578312	698	9.9421688	8753.159	5
10.2574406	18090.086	4	56	11426.179	10.0579010	699	9.9420990	8751.743	4
10.2571423	18077.654	3	57	11428.017	10.0579709	699	9.9420291	8750.326	3
10.2568441	18065.236	2	58	11429.857	10.0580408	699	9.9419592	8748.908	2
10.2565460	18052.860	1	59	11431.698	10.0581107	700	9.9418893	8747.490	1
10.2562480	18040.478	0	60	11433.541	10.0581807		9.9418193	8746.071	0
L. Tan.	N. Tan.	01				D.	L. Sin.	N. Sin.	61

29	N. Sin.	L. Sin.	Dir.			29	N. Tan.	L. Tan.	Dir.
0	4348.096	9.6857712		10.3144288	20626.65360	0	5543.090	9.7437520	
1	4850.640	9.6857991	2279	10.3142009	20615.83659	1	5546.894	9.7440499	2979
2	4853.184	9.6860267	2276	10.3139733	20605.03158	2	5550.698	9.7443476	2977
3	4855.727	9.6862542	2275	10.3137458	20594.23957	3	5554.504	9.7446453	2977
4	4858.270	9.6864816	2274	10.3135184	20583.46056	4	5558.311	9.7449428	2975
5	4860.812	9.6867088	2272	10.3132912	20572.69555	5	5562.119	9.7452403	2975
6	4863.354	9.6869359	2271	10.3130641	20561.94254	6	5565.929	9.7455376	2973
7	4865.895	9.6871628	2269	10.3128372	20551.20353	7	5569.739	9.7458349	2973
8	4868.436	9.6873895	2267	10.3126105	20540.47652	8	5573.551	9.7461320	2971
9	4870.977	9.6876161	2266	10.3123839	20529.76251	9	5577.364	9.7464290	2969
10	4873.517	9.6878425	2264	10.3121575	20519.06150	10	5581.179	9.7467259	2968
11	4876.057	9.6880688	2263	10.3119312	20508.37349	11	5584.994	9.7470227	2967
12	4878.597	9.6882949	2261	10.3117051	20497.69848	12	5588.811	9.7473194	2967
13	4881.136	9.6885209	2260	10.3114791	20487.03647	13	5592.629	9.7476160	2966
14	4883.674	9.6887467	2258	10.3112533	20476.38646	14	5596.445	9.7479125	2964
15	4886.212	9.6889723	2256	10.3110277	20465.75045	15	5600.269	9.7482089	2963
16	4888.750	9.6891978	2255	10.3108022	20455.12644	16	5604.091	9.7485052	2961
17	4891.287	9.6894232	2254	10.3105768	20444.51543	17	5607.914	9.7488013	2961
18	4893.824	9.6896484	2252	10.3103516	20433.91642	18	5611.738	9.7490974	2960
19	4896.361	9.6898734	2250	10.3101266	20423.33041	19	5615.564	9.7493934	2958
20	4898.897	9.6900983	2249	10.3099017	20412.75740	20	5619.391	9.7496892	2958
21	4901.433	9.6903231	2248	10.3096769	20402.19739	21	5623.219	9.7499850	2956
22	4903.968	9.6905476	2245	10.3094524	20391.64938	22	5627.048	9.7502806	2956
23	4906.503	9.6907721	2245	10.3092279	20381.11437	23	5630.879	9.7505762	2954
24	4909.037	9.6909964	2243	10.3090036	20370.59236	24	5634.710	9.7508716	2953
25	4911.571	9.6912205	2241	10.3087795	20360.08235	25	5638.543	9.7511669	2953
26	4914.105	9.6914445	2240	10.3085555	20349.58534	26	5642.378	9.7514623	2951
27	4916.638	9.6916683	2238	10.3083317	20339.10033	27	5646.213	9.7517573	2950
28	4919.171	9.6918919	2236	10.3081081	20328.62732	28	5650.050	9.7520523	2948
29	4921.704	9.6921155	2236	10.3078845	20318.16831	29	5653.888	9.7523472	2948
30	4924.236	9.6923388	2233	10.3076612	20307.72030	30	5657.728	9.7526420	2948
31	4926.767	9.6925620	2232	10.3074380	20297.28629	31	5661.568	9.7529368	2946
32	4929.298	9.6927851	2231	10.3072149	20286.86328	32	5665.410	9.7532314	2945
33	4931.829	9.6930080	2229	10.3069920	20276.45327	33	5669.253	9.7535259	2944
34	4934.359	9.6932308	2228	10.3067692	20266.05626	34	5673.098	9.7538203	2943
35	4936.889	9.6934534	2226	10.3065466	20255.67025	35	5676.944	9.7541146	2942
36	4939.419	9.6936758	2224	10.3063242	20245.29724	36	5680.791	9.7544088	2941
37	4941.948	9.6938981	2223	10.3061019	20234.93723	37	5684.639	9.7547029	2940
38	4944.477	9.6941203	2222	10.3058797	20224.58922	38	5688.488	9.7549969	2939
39	4947.005	9.6943423	2220	10.3056577	20214.25321	39	5692.339	9.7552908	2938
40	4949.533	9.6945642	2219	10.3054358	20203.92920	40	5696.191	9.7555846	2937
41	4952.060	9.6947859	2217	10.3052141	20193.61719	41	5700.045	9.7558783	2935
42	4954.587	9.6950074	2215	10.3049926	20183.31818	42	5703.899	9.7561718	2935
43	4957.113	9.6952288	2214	10.3047712	20173.03117	43	5707.755	9.7564653	2934
44	4959.639	9.6954501	2213	10.3045499	20162.75616	44	5711.612	9.7567587	2933
45	4962.165	9.6956712	2211	10.3043288	20152.49415	45	5715.471	9.7570520	2932
46	4964.690	9.6958922	2210	10.3041078	20142.24314	46	5719.331	9.7573452	2931
47	4967.215	9.6961130	2208	10.3038870	20132.00513	47	5723.192	9.7576383	2931
48	4969.740	9.6963336	2206	10.3036664	20121.77912	48	5727.054	9.7579312	2929
49	4972.264	9.6965541	2205	10.3034459	20111.56411	49	5730.918	9.7582242	2928
50	4974.787	9.6967745	2204	10.3032255	20101.36210	50	5734.783	9.7585170	2926
51	4977.310	9.6969947	2202	10.3030053	20091.1729	51	5738.649	9.7588096	2926
52	4979.833	9.6972148	2201	10.3027852	20080.9948	52	5742.516	9.7591021	2925
53	4982.355	9.6974347	2199	10.3025653	20070.8287	53	5746.385	9.7593947	2924
54	4984.877	9.6976545	2198	0.3023455	20060.6746	54	5750.255	9.7596871	2923
55	4987.399	9.6978741	2196	10.3021259	20050.5325	55	5754.126	9.7599794	2922
56	4989.920	9.6980936	2195	10.3019064	20040.4024	56	5757.999	9.7602716	2921
57	4992.441	9.6983129	2193	10.3016871	20030.2833	57	5761.873	9.7605637	2920
58	4994.961	9.6985321	2192	10.3014679	20020.1772	58	5765.748	9.7608557	2919
59	4997.481	9.6987511	2190	10.3012489	20010.0831	59	5769.625	9.7611476	2918
60	5000.000	9.6989700	2189	10.3010300	20000.0000	60	5773.503	9.7614394	2918
			Dir.	L. Sec.	N. Sec.	60			Dir.

			29	N. Sec.	L. Sec.	D.			
10.2562480	18040.478	60	0	11433.541	10.0581807	9.9418193	8746.197	60	
10.2565901	18028.108	59	1	11435.385	10.0582508	9.9417492	8744.786	59	
10.2566524	18015.751	58	2	11437.231	10.0583209	9.9416791	8743.375	58	
10.2567147	18003.408	57	3	11439.078	10.0583910	9.9416090	8741.963	57	
10.2567770	17991.077	56	4	11440.927	10.0584612	9.9415388	8740.550	56	
10.2568393	17978.759	55	5	11442.778	10.0585315	9.9414687	8739.136	55	
10.2569016	17966.454	54	6	11444.630	10.0586018	9.9413982	8737.722	54	
10.2541651	17954.162	53	7	11446.484	10.0586721	9.9413279	8736.307	53	
10.2538680	17941.883	52	8	11448.339	10.0587425	9.9412575	8734.891	52	
10.2535710	17929.616	51	9	11450.196	10.0588129	9.9411871	8733.475	51	
10.2532741	17917.362	50	10	11452.055	10.0588834	9.9411166	8732.058	50	
10.2529773	17905.121	49	11	11453.915	10.0589539	9.9410461	8730.640	49	
10.2526806	17892.893	48	12	11455.776	10.0590245	9.9409755	8729.221	48	
10.2523840	17880.678	47	13	11457.639	10.0590951	9.9409048	8727.801	47	
10.2520875	17868.475	46	14	11459.504	10.0591658	9.9408342	8726.381	46	
10.2517911	17856.285	45	15	11461.370	10.0592366	9.9407634	8724.960	45	
10.2514948	17844.107	44	16	11463.238	10.0593073	9.9406927	8723.538	44	
10.2511987	17831.942	43	17	11465.108	10.0593781	9.9406219	8722.116	43	
10.2509026	17819.790	42	18	11466.979	10.0594490	9.9405510	8720.693	42	
10.2506066	17807.651	41	19	11468.852	10.0595199	9.9404801	8719.269	41	
10.2503108	17795.524	40	20	11470.726	10.0595909	9.9404091	8717.844	40	
10.2500150	17783.409	39	21	11472.602	10.0596619	9.9403381	8716.419	39	
10.2497194	17771.307	38	22	11474.479	10.0597330	9.9402670	8714.993	38	
10.2494238	17759.218	37	23	11476.358	10.0598041	9.9401959	8713.566	37	
10.2491284	17747.141	36	24	11478.239	10.0598752	9.9401248	8712.138	36	
10.2488331	17735.076	35	25	11480.121	10.0599465	9.9400535	8710.710	35	
10.2485378	17723.024	34	26	11482.005	10.0600177	9.9399823	8709.281	34	
10.2482427	17710.985	33	27	11483.890	10.0600890	9.9399110	8707.851	33	
10.2479477	17698.958	32	28	11485.777	10.0601604	9.9398396	8706.420	32	
10.2476528	17686.943	31	29	11487.665	10.0602318	9.9397682	8704.989	31	
10.2473580	17674.940	30	30	11489.555	10.0603032	9.9396968	8703.557	30	
10.2470632	17662.950	29	31	11491.447	10.0603747	9.9396253	8702.124	29	
10.2467686	17650.972	28	32	11493.340	10.0604463	9.9395537	8700.690	28	
10.2464741	17639.007	27	33	11495.235	10.0605179	9.9394821	8699.256	27	
10.2461797	17627.053	26	34	11497.132	10.0605895	9.9394105	8697.821	26	
10.2458854	17615.112	25	35	11499.030	10.0606612	9.9393388	8696.385	25	
10.2455912	17603.183	24	36	11500.930	10.0607329	9.9392671	8694.949	24	
10.2452971	17591.267	23	37	11502.831	10.0608047	9.9391953	8693.512	23	
10.2450031	17579.362	22	38	11504.734	10.0608766	9.9391234	8692.074	22	
10.2447092	17567.470	21	39	11506.638	10.0609485	9.9390515	8690.635	21	
10.2444154	17555.590	20	40	11508.544	10.0610204	9.9389796	8689.196	20	
10.2441217	17543.722	19	41	11510.452	10.0610924	9.9389077	8687.756	19	
10.2438282	17531.866	18	42	11512.361	10.0611644	9.9388356	8686.315	18	
10.2435347	17520.023	17	43	11514.272	10.0612365	9.9387635	8684.873	17	
10.2432413	17508.191	16	44	11516.185	10.0613086	9.9386914	8683.431	16	
10.2429480	17496.371	15	45	11518.099	10.0613808	9.9386192	8681.988	15	
10.2426548	17484.564	14	46	11520.015	10.0614530	9.9385470	8680.544	14	
10.2423617	17472.768	13	47	11521.932	10.0615253	9.9384747	8679.100	13	
10.2420687	17460.984	12	48	11523.851	10.0615976	9.9384024	8677.655	12	
10.2417758	17449.213	11	49	11525.772	10.0616700	9.9383300	8676.209	11	
10.2414830	17437.453	10	50	11527.694	10.0617424	9.9382576	8674.762	10	
10.2411904	17425.705	9	51	11529.618	10.0618149	9.9381851	8673.314	9	
10.2408978	17413.969	8	52	11531.543	10.0618874	9.9381126	8671.866	8	
10.2406053	17402.245	7	53	11533.470	10.0619600	9.9380400	8670.417	7	
10.2403129	17390.533	6	54	11535.399	10.0620326	9.9379674	8668.967	6	
10.2400206	17378.833	5	55	11537.329	10.0621053	9.9378947	8667.517	5	
10.2397284	17367.144	4	56	11539.261	10.0621780	9.9378220	8666.066	4	
10.2394363	17355.468	3	57	11541.195	10.0622508	9.9377492	8664.614	3	
10.2391443	17343.803	2	58	11543.130	10.0623236	9.9376764	8663.161	2	
10.2388524	17332.149	1	59	11545.067	10.0623965	9.9376035	8661.708	1	
10.2385606	17320.508	0	60	11547.005	10.0624694	9.9375306	8660.254	0	
L. Tan.	N. Tan.	60				D. L. Sin.	N. Sin.	60	

30	N.Sin.	L. Sin.	Dif.			30	N.Tan.	L. Tan.	Dif.
0	5000.000	9.6989700		100010300	20000.000	0	5773.503	9.7614394	
1	5001.519	9.6991887	2187	10.3008113	19989.929	1	5777.382	9.7617311	2917
2	5003.038	9.6994073	2186	10.3009927	19979.870	2	5781.262	9.7620227	2916
3	5004.556	9.6996258	2185	10.3013742	19969.823	3	5785.144	9.7623142	2915
4	5010.074	9.6998441	2184	10.3001559	19959.788	4	5789.027	9.7626056	2914
5	5012.591	9.7000622	2183	10.2999378	19949.764	5	5792.911	9.7628969	2913
6	5015.108	9.7002803	2180	10.2997198	19939.753	6	5796.797	9.7631881	2912
7	5017.624	9.7004981	2179	10.2995019	19929.752	7	5800.684	9.7634792	2911
8	5020.140	9.7007158	2177	10.2992842	19919.764	8	5804.573	9.7637702	2910
9	5022.655	9.7009334	2176	10.2990666	19909.787	9	5808.462	9.7640612	2908
10	5025.170	9.7011508	2174	10.2988492	19899.822	10	5812.353	9.7643520	2907
11	5027.685	9.7013681	2173	10.2986319	19889.869	11	5816.245	9.7646427	2907
12	5030.199	9.7015851	2171	10.2984148	19879.927	12	5820.139	9.7649334	2905
13	5032.713	9.7018022	2170	10.2981978	19869.997	13	5824.034	9.7652239	2904
14	5035.227	9.7020199	2168	10.2979810	19860.080	14	5827.930	9.7655143	2903
15	5037.740	9.7022375	2167	10.2977643	19850.172	15	5831.828	9.7658047	2902
16	5040.253	9.7024552	2166	10.2975477	19840.276	16	5835.727	9.7660949	2901
17	5042.765	9.7026688	2164	10.2973313	19830.393	17	5839.627	9.7663851	2900
18	5045.277	9.7028849	2162	10.2971151	19820.520	18	5843.528	9.7666751	2900
19	5047.788	9.7031011	2162	10.2968989	19810.659	19	5847.431	9.7669651	2899
20	5050.299	9.7033170	2159	10.2966830	19800.810	20	5851.335	9.7672550	2898
21	5052.809	9.7035329	2159	10.2964671	19790.972	21	5855.241	9.7675448	2896
22	5055.319	9.7037486	2157	10.2962514	19781.146	22	5859.148	9.7678344	2896
23	5057.828	9.7039641	2155	10.2960359	19771.331	23	5863.056	9.7681240	2895
24	5060.337	9.7041795	2154	10.2958205	19761.527	24	5866.965	9.7684135	2894
25	5062.846	9.7043947	2152	10.2956053	19751.735	25	5870.876	9.7687039	2893
26	5065.355	9.7046099	2152	10.2953901	19741.954	26	5874.788	9.7689942	2892
27	5067.863	9.7048248	2149	10.2951752	19732.185	27	5878.702	9.7692844	2891
28	5070.370	9.7050397	2149	10.2949603	19722.426	28	5882.617	9.7695705	2891
29	5072.877	9.7052543	2146	10.2947457	19712.680	29	5886.533	9.7698596	2889
30	5075.384	9.7054689	2146	10.2945311	19702.944	30	5890.450	9.7701485	2888
31	5077.890	9.7056833	2144	10.2943167	19693.220	31	5894.369	9.7704373	2888
32	5080.396	9.7058975	2142	10.2941025	19683.507	32	5898.289	9.7707261	2886
33	5082.901	9.7061116	2141	10.2938884	19673.805	33	5902.211	9.7710147	2886
34	5085.406	9.7063256	2140	10.2936744	19664.114	34	5906.134	9.7713033	2884
35	5087.910	9.7065394	2138	10.2934606	19654.434	35	5910.058	9.7715917	2884
36	5090.414	9.7067531	2137	10.2932469	19644.767	36	5913.983	9.7718801	2883
37	5092.918	9.7069667	2136	10.2930333	19635.110	37	5917.910	9.7721684	2882
38	5095.421	9.7071801	2134	10.2928199	19625.464	38	5921.839	9.7724566	2881
39	5097.924	9.7073933	2132	10.2926067	19615.829	39	5925.768	9.7727447	2880
40	5100.426	9.7076064	2131	10.2923936	19606.206	40	5929.699	9.7730327	2879
41	5102.928	9.7078194	2130	10.2921806	19596.593	41	5933.632	9.7733206	2878
42	5105.429	9.7080323	2129	10.2919677	19586.992	42	5937.566	9.7736084	2877
43	5107.930	9.7082450	2127	10.2917550	19577.401	43	5941.501	9.7738961	2877
44	5110.431	9.7084575	2125	10.2915425	19567.822	44	5945.437	9.7741838	2875
45	5112.931	9.7086699	2124	10.2913301	19558.254	45	5949.375	9.7744713	2875
46	5115.431	9.7088822	2123	10.2911178	19548.697	46	5953.314	9.7747588	2874
47	5117.930	9.7090943	2121	10.2909057	19539.150	47	5957.254	9.7750462	2873
48	5120.429	9.7093063	2120	10.2906937	19529.615	48	5961.196	9.7753334	2872
49	5122.927	9.7095182	2119	10.2904818	19520.091	49	5965.140	9.7756206	2871
50	5125.425	9.7097299	2117	10.2902701	19510.577	50	5969.084	9.7759077	2870
51	5127.922	9.7099415	2116	10.2900585	19501.075	51	5973.030	9.7761947	2869
52	5130.419	9.7101529	2114	10.2898471	19491.583	52	5976.978	9.7764816	2869
53	5132.916	9.7103642	2113	10.2896358	19482.102	53	5980.927	9.7767685	2867
54	5135.412	9.7105753	2111	10.2894247	19472.632	54	5984.877	9.7770552	2866
55	5137.908	9.7107863	2110	10.2892137	19463.173	55	5988.828	9.7773418	2866
56	5140.404	9.7109972	2109	10.2890028	19453.725	56	5992.781	9.7776284	2865
57	5142.899	9.7112079	2108	10.2887920	19444.288	57	5996.735	9.7779149	2865
58	5145.393	9.7114186	2106	10.2885814	19434.861	58	6000.691	9.7782012	2863
59	5147.887	9.7116290	2104	10.2883710	19425.445	59	6004.648	9.7784875	2862
60	5150.381	9.7118393	2103	10.2881607	19416.040	60	6008.606	9.7787737	2862
			Dif.	L. Sec.	N. Sec.				Dif.

			30	N. Sec.	L. Sec.	D.			
10.2385606	17320.508	60	0	11547.005	10.0624694	729	9.9375306	8660.254	60
10.2382689	17308.378	59	1	11548.945	10.0625423	730	9.9374577	8658.799	59
10.2379773	17297.260	58	2	11550.887	10.0626153	731	9.9373847	8657.343	58
10.2376858	17285.654	57	3	11552.830	10.0626884	732	9.9373116	8655.887	57
10.2373944	17274.060	56	4	11554.775	10.0627615	733	9.9372385	8654.430	56
10.2371031	17262.477	55	5	11556.722	10.0628347	734	9.9371653	8652.972	55
10.2368119	17250.905	54	6	11558.670	10.0629079	735	9.9370921	8651.514	54
10.2365208	17239.345	53	7	11560.620	10.0629811	736	9.9370189	8650.055	53
10.2362298	17227.797	52	8	11562.572	10.0630544	737	9.9369456	8648.595	52
10.2359388	17216.261	51	9	11564.525	10.0631278	738	9.9368722	8647.134	51
10.2356480	17204.736	50	10	11566.480	10.0632012	739	9.9367988	8645.673	50
10.2353573	17193.222	49	11	11568.436	10.0632746	740	9.9367254	8644.211	49
10.2350666	17181.720	48	12	11570.394	10.0633481	741	9.9366519	8642.748	48
10.2347761	17170.230	47	13	11572.354	10.0634217	742	9.9365783	8641.284	47
10.2344857	17158.751	46	14	11574.315	10.0634953	743	9.9365047	8639.820	46
10.2341953	17147.281	45	15	11576.278	10.0635689	744	9.9364311	8638.355	45
10.2339051	17135.827	44	16	11578.243	10.0636426	745	9.9363574	8636.889	44
10.2336149	17124.382	43	17	11580.209	10.0637164	746	9.9362836	8635.423	43
10.2333249	17112.949	42	18	11582.177	10.0637902	747	9.9362098	8633.956	42
10.2330349	17101.527	41	19	11584.147	10.0638640	748	9.9361360	8632.488	41
10.2327450	17090.116	40	20	11586.118	10.0639379	749	9.9360621	8631.019	40
10.2324551	17078.717	39	21	11588.091	10.0640119	750	9.9359881	8629.549	39
10.2321656	17067.329	38	22	11590.065	10.0640859	751	9.9359141	8628.079	38
10.2318760	17055.953	37	23	11592.041	10.0641599	752	9.9358401	8626.608	37
10.2315865	17044.587	36	24	11594.019	10.0642340	753	9.9357660	8625.136	36
10.2312971	17033.233	35	25	11595.999	10.0643082	754	9.9356918	8623.664	35
10.2310078	17021.890	34	26	11597.980	10.0643823	755	9.9356177	8622.191	34
10.2307186	17010.552	33	27	11599.963	10.0644566	756	9.9355434	8620.717	33
10.2304295	16999.238	32	28	11601.947	10.0645309	757	9.9354691	8619.243	32
10.2301404	16987.929	31	29	11603.933	10.0646052	758	9.9353948	8617.768	31
10.2298515	16976.631	30	30	11605.921	10.0646796	759	9.9353204	8616.292	30
10.2295627	16965.344	29	31	11607.911	10.0647541	760	9.9352459	8614.815	29
10.2292739	16954.069	28	32	11609.902	10.0648285	761	9.9351715	8613.337	28
10.2289853	16942.804	27	33	11611.895	10.0649031	762	9.9350969	8611.859	27
10.2286967	16931.550	26	34	11613.889	10.0649777	763	9.9350224	8610.380	26
10.2284083	16920.308	25	35	11615.885	10.0650523	764	9.9349477	8608.900	25
10.2281199	16909.077	24	36	11617.883	10.0651270	765	9.9348730	8607.420	24
10.2278316	16897.856	23	37	11619.882	10.0652017	766	9.9347983	8605.939	23
10.2275434	16886.647	22	38	11621.883	10.0652765	767	9.9347235	8604.457	22
10.2272553	16875.449	21	39	11623.886	10.0653514	768	9.9346486	8602.974	21
10.2269673	16864.261	20	40	11625.891	10.0654262	769	9.9345738	8601.491	20
10.2266794	16853.085	19	41	11627.897	10.0655012	770	9.9344988	8600.007	19
10.2263915	16841.919	18	42	11629.905	10.0655762	771	9.9344238	8598.522	18
10.2261039	16830.765	17	43	11631.914	10.0656512	772	9.9343488	8597.037	17
10.2258162	16819.621	16	44	11633.925	10.0657263	773	9.9342737	8595.551	16
10.2255287	16808.489	15	45	11635.938	10.0658014	774	9.9341986	8594.064	15
10.2252412	16797.367	14	46	11637.953	10.0658766	775	9.9341234	8592.576	14
10.2249538	16786.256	13	47	11639.969	10.0659518	776	9.9340482	8591.088	13
10.2246666	16775.156	12	48	11641.987	10.0660271	777	9.9339729	8589.599	12
10.2243794	16764.067	11	49	11644.007	10.0661024	778	9.9338976	8588.109	11
10.2240923	16752.988	10	50	11646.028	10.0661778	779	9.9338222	8586.618	10
10.2238053	16741.921	9	51	11648.051	10.0662533	780	9.9337467	8585.127	9
10.2235184	16730.864	8	52	11650.076	10.0663287	781	9.9336713	8583.635	8
10.2232315	16719.818	7	53	11652.102	10.0664043	782	9.9335957	8582.142	7
10.2229448	16708.782	6	54	11654.130	10.0664799	783	9.9335201	8580.649	6
10.2226582	16697.758	5	55	11656.160	10.0665555	784	9.9334445	8579.155	5
10.2223716	16686.744	4	56	11658.191	10.0666312	785	9.9333688	8577.660	4
10.2220851	16675.741	3	57	11660.224	10.0667069	786	9.9332931	8576.164	3
10.2217988	16664.748	2	58	11662.259	10.0667827	787	9.9332173	8574.668	2
10.2215125	16653.766	1	59	11664.296	10.0668585	788	9.9331415	8573.171	1
10.2212263	16642.795	0	60	11666.336	10.0669344	789	9.9330656	8571.673	0
L. Tan.	N. Tan	59				D.	L. Sin.	N. Sin.	59

31	N. Sin.	L. Sin.	Dif.			31	N. Tan.	L. Tan.	Dif.
0	5150.381	9.7118393		10.2881607	19416.04060	0	6008.606	9.7787737	2862
1	5152.874	9.7120495	2102	10.2879505	19406.64659	1	6012.566	9.7790599	2860
2	5155.367	9.7122596	2101	10.2877404	19397.26258	2	6016.527	9.7793459	2859
3	5157.859	9.7124695	2099	10.2875305	19387.88957	3	6020.490	9.7796318	2859
4	5160.351	9.7126792	2097	10.2873208	19378.52756	4	6024.454	9.7799177	2857
5	5162.842	9.7128889	2097	10.2871111	19369.17655	5	6028.419	9.7802034	2857
6	5165.333	9.7130983	2094	10.2869017	19359.83554	6	6032.386	9.7804891	2856
7	5167.824	9.7133077	2094	10.2866923	19350.50553	7	6036.354	9.7807747	2855
8	5170.314	9.7135169	2092	10.2864831	19341.18552	8	6040.323	9.7810602	2854
9	5172.804	9.7137260	2091	10.2862740	19331.87651	9	6044.294	9.7813456	2853
10	5175.293	9.7139349	2089	10.2860651	19322.57850	10	6048.266	9.7816309	2853
11	5177.782	9.7141437	2088	10.2858563	19313.29049	11	6052.240	9.7819162	2851
12	5180.270	9.7143524	2087	10.2856476	19304.01348	12	6056.215	9.7822013	2851
13	5182.758	9.7145609	2085	10.2854391	19294.74647	13	6060.192	9.7824864	2849
14	5185.246	9.7147693	2084	10.2852307	19285.49046	14	6064.170	9.7827713	2849
15	5187.733	9.7149776	2083	10.2850224	19276.24445	15	6068.149	9.7830562	2848
16	5190.219	9.7151857	2081	10.2848143	19267.00944	16	6072.130	9.7833410	2848
17	5192.705	9.7153937	2080	10.2846063	19257.78443	17	6076.112	9.7836258	2846
18	5195.191	9.7156015	2078	10.2843985	19248.57042	18	6080.095	9.7839104	2845
19	5197.676	9.7158092	2077	10.2841908	19239.36641	19	6084.080	9.7841949	2845
20	5200.161	9.7160168	2076	10.2839832	19230.17340	20	6088.067	9.7844794	2844
21	5202.646	9.7162243	2075	10.2837757	19220.99039	21	6092.054	9.7847638	2843
22	5205.130	9.7164319	2073	10.2835684	19211.81738	22	6096.043	9.7850481	2842
23	5207.613	9.7166397	2071	10.2833613	19202.65537	23	6100.034	9.7853323	2841
24	5210.096	9.7168478	2071	10.2831542	19193.50336	24	6104.026	9.7856164	2840
25	5212.579	9.7170556	2068	10.2829474	19184.36235	25	6108.019	9.7859004	2840
26	5215.061	9.7172634	2068	10.2827406	19175.23034	26	6112.014	9.7861844	2838
27	5217.543	9.7174710	2066	10.2825340	19166.10933	27	6116.011	9.7864682	2838
28	5220.024	9.7176785	2065	10.2823275	19156.99932	28	6120.008	9.7867520	2837
29	5222.505	9.7178869	2064	10.2821211	19147.89931	29	6124.007	9.7870357	2835
30	5224.986	9.7180951	2062	10.2819149	19138.80930	30	6128.008	9.7873193	2835
31	5227.466	9.7182932	2061	10.2817088	19129.72929	31	6132.010	9.7876028	2835
32	5229.945	9.7184911	2059	10.2815029	19120.65928	32	6136.013	9.7878863	2833
33	5232.424	9.7186900	2059	10.2812970	19111.60027	33	6140.018	9.7881696	2833
34	5234.903	9.7188906	2056	10.2810914	19102.55126	34	6144.024	9.7884529	2832
35	5237.381	9.7191142	2054	10.2808858	19093.51225	35	6148.032	9.7887361	2831
36	5239.859	9.7193196	2054	10.2806804	19084.48324	36	6152.041	9.7890192	2831
37	5242.336	9.7195249	2053	10.2804751	19075.46423	37	6156.052	9.7893023	2829
38	5244.813	9.7197300	2051	10.2802700	19066.45622	38	6160.064	9.7895852	2829
39	5247.290	9.7199350	2050	10.2800650	19057.45721	39	6164.077	9.7898681	2827
40	5249.766	9.7201399	2049	10.2798601	19048.46920	40	6168.092	9.7901508	2827
41	5252.241	9.7203447	2048	10.2796553	19039.49119	41	6172.108	9.7904335	2826
42	5254.716	9.7205493	2046	10.2794507	19030.52218	42	6176.126	9.7907161	2826
43	5257.191	9.7207538	2045	10.2792462	19021.56417	43	6180.145	9.7909987	2824
44	5259.665	9.7209581	2043	10.2790419	19012.61616	44	6184.166	9.7912811	2824
45	5262.139	9.7211623	2042	10.2788377	19003.67815	45	6188.188	9.7915635	2823
46	5264.612	9.7213664	2041	10.2786336	18994.75014	46	6192.211	9.7918458	2822
47	5267.085	9.7215704	2040	10.2784296	18985.83213	47	6196.236	9.7921280	2821
48	5269.558	9.7217742	2038	10.2782258	18976.92412	48	6200.263	9.7924101	2820
49	5272.030	9.7219779	2037	10.2780221	18968.02611	49	6204.291	9.7926921	2820
50	5274.502	9.7221814	2035	10.2778186	18959.13810	50	6208.320	9.7929741	2819
51	5276.973	9.7223848	2034	10.2776152	18950.2599	51	6212.351	9.7932560	2818
52	5279.444	9.7225881	2033	10.2774119	18941.3918	52	6216.383	9.7935378	2817
53	5281.914	9.7227913	2032	10.2772087	18932.5327	53	6220.417	9.7938195	2816
54	5284.384	9.7229943	2030	10.2770057	18923.6846	54	6224.452	9.7941011	2816
55	5286.853	9.7231972	2029	10.2768028	18914.8455	55	6228.488	9.7943827	2814
56	5289.322	9.7234000	2028	10.2766000	18906.0164	56	6232.526	9.7946641	2814
57	5291.790	9.7236026	2026	10.2763974	18897.1973	57	6236.566	9.7949455	2813
58	5294.258	9.7238051	2025	10.2761949	18888.3882	58	6240.607	9.7952268	2812
59	5296.726	9.7240075	2024	10.2759925	18879.5891	59	6244.650	9.7955081	2811
60	5299.193	9.7242097	2022	10.2757903	18870.7990	60	6248.694	9.7957892	
			Dif.	L. Sec.	N. Sec. 158				Dif.

			31	N. Sec.	L. Sec.	D.			
IO.2212263	16641.795	60	0	11666.334	10.0669344	759	9.9330656	8571.673	60
IO.2209401	16631.834	59	1	11668.374	10.0670103	760	9.9329897	8570.174	59
IO.2206541	16620.884	58	2	11670.416	10.0670863	761	9.9329137	8568.675	58
IO.2203682	16609.945	57	3	11672.459	10.0671624	762	9.9328376	8567.175	57
IO.2200823	16599.016	56	4	11674.504	10.0672384	763	9.9327616	8565.674	56
IO.2197966	16588.097	55	5	11676.551	10.0673146	764	9.9326854	8564.173	55
IO.2195109	16577.189	54	6	11678.599	10.0673908	765	9.9326092	8562.671	54
IO.2192253	16566.292	53	7	11680.649	10.0674670	766	9.9325330	8561.168	53
IO.2189398	16555.405	52	8	11682.701	10.0675433	767	9.9324567	8559.664	52
IO.2186544	16544.529	51	9	11684.755	10.0676196	768	9.9323804	8558.160	51
IO.2183691	16533.663	50	10	11686.810	10.0676960	769	9.9323040	8556.655	50
IO.2180838	16522.808	49	11	11688.867	10.0677724	770	9.9322276	8555.149	49
IO.2177987	16511.963	48	12	11690.926	10.0678489	771	9.9321511	8553.642	48
IO.2175136	16501.128	47	13	11692.986	10.0679254	772	9.9320746	8552.135	47
IO.2172287	16490.304	46	14	11695.048	10.0680020	773	9.9319980	8550.627	46
IO.2169438	16479.480	45	15	11697.112	10.0680787	774	9.9319213	8549.118	45
IO.2166590	16468.666	44	16	11699.178	10.0681553	775	9.9318447	8547.609	44
IO.2163742	16457.863	43	17	11701.245	10.0682321	776	9.9317679	8546.099	43
IO.2160896	16447.111	42	18	11703.314	10.0683089	777	9.9316911	8544.588	42
IO.2158051	16436.368	41	19	11705.385	10.0683857	778	9.9316143	8543.076	41
IO.2155206	16425.576	40	20	11707.457	10.0684626	779	9.9315374	8541.564	40
IO.2152362	16414.824	39	21	11709.531	10.0685395	780	9.9314605	8540.051	39
IO.2149519	16404.082	38	22	11711.607	10.0686165	781	9.9313835	8538.537	38
IO.2146677	16393.351	37	23	11713.685	10.0686935	782	9.9313065	8537.023	37
IO.2143836	16382.630	36	24	11715.764	10.0687706	783	9.9312294	8535.508	36
IO.2140996	16371.919	35	25	11717.845	10.0688478	784	9.9311522	8533.992	35
IO.2138156	16361.218	34	26	11719.928	10.0689250	785	9.9310750	8532.475	34
IO.2135318	16350.528	33	27	11722.013	10.0690022	786	9.9309978	8530.958	33
IO.2132480	16339.847	32	28	11724.099	10.0690795	787	9.9309205	8529.440	32
IO.2129643	16329.177	31	29	11726.187	10.0691568	788	9.9308432	8527.921	31
IO.2126807	16318.517	30	30	11728.277	10.0692342	789	9.9307658	8526.402	30
IO.2123972	16307.867	29	31	11730.369	10.0693117	790	9.9306883	8524.881	29
IO.2121137	16297.227	28	32	11732.462	10.0693891	791	9.9306109	8523.360	28
IO.2118304	16286.597	27	33	11734.557	10.0694667	792	9.9305333	8521.838	27
IO.2115471	16275.977	26	34	11736.654	10.0695443	793	9.9304557	8520.316	26
IO.2112639	16265.368	25	35	11738.752	10.0696219	794	9.9303781	8518.793	25
IO.2109808	16254.768	24	36	11740.852	10.0696996	795	9.9303004	8517.269	24
IO.2106977	16244.178	23	37	11742.954	10.0697774	796	9.9302226	8515.744	23
IO.2104148	16233.599	22	38	11745.058	10.0698552	797	9.9301448	8514.219	22
IO.2101319	16223.029	21	39	11747.164	10.0699330	798	9.9300670	8512.693	21
IO.2098492	16212.469	20	40	11749.271	10.0700109	799	9.9299891	8511.166	20
IO.2095665	16201.920	19	41	11751.380	10.0700888	800	9.9299112	8509.639	19
IO.2092839	16191.380	18	42	11753.491	10.0701668	801	9.9298332	8508.111	18
IO.2090013	16180.850	17	43	11755.603	10.0702449	802	9.9297551	8506.582	17
IO.2087189	16170.330	16	44	11757.717	10.0703230	803	9.9296770	8505.052	16
IO.2084365	16159.820	15	45	11759.833	10.0704011	804	9.9295989	8503.522	15
IO.2081542	16149.320	14	46	11761.951	10.0704793	805	9.9295207	8501.991	14
IO.2078720	16138.829	13	47	11764.070	10.0705576	806	9.9294424	8500.459	13
IO.2075899	16128.349	12	48	11766.191	10.0706359	807	9.9293641	8498.927	12
IO.2073079	16117.878	11	49	11768.314	10.0707143	808	9.9292857	8497.394	11
IO.2070259	16107.417	10	50	11770.439	10.0707927	809	9.9292073	8495.860	10
IO.2067440	16096.966	9	51	11772.566	10.0708711	810	9.9291289	8494.325	9
IO.2064622	16086.525	8	52	11774.694	10.0709496	811	9.9290504	8492.790	8
IO.2061805	16076.094	7	53	11776.824	10.0710282	812	9.9289718	8491.254	7
IO.2058989	16065.672	6	54	11778.956	10.0711068	813	9.9288932	8489.717	6
IO.2056173	16055.260	5	55	11781.090	10.0711855	814	9.9288145	8488.179	5
IO.2053359	16044.858	4	56	11783.225	10.0712642	815	9.9287358	8486.641	4
IO.2050545	16034.465	3	57	11785.362	10.0713429	816	9.9286571	8485.102	3
IO.2047732	16024.082	2	58	11787.501	10.0714217	817	9.9285783	8483.562	2
IO.2044919	16013.709	1	59	11789.642	10.0715006	818	9.9284994	8482.022	1
IO.2042108	16003.345	0	60	11791.784	10.0715795	819	9.9284205	8480.481	0
L. Tan.	N. Tan.	58				D.	L. Sin.	N. Sin.	58

32	N. Sin.	L. Sin.	Dif.			32	N. Tan.	L. Tan.	Dif.
0	299.193	7.242097		10.2757903	18870.79960	0	6248.694	9.7957892	2811
1	301.659	7.244118	2021	10.2755882	18862.01959	1	6251.739	9.7960703	2810
2	304.125	7.246138	2018	10.2753862	18853.24558	2	6254.786	9.7963513	2809
3	306.591	7.248156	2018	10.2751844	18844.48957	3	6257.834	9.7966322	2808
4	309.056	7.250174	2018	10.2749826	18835.73856	4	6260.884	9.7969130	2808
5	311.521	7.252189	2015	10.2747811	18826.99755	5	6263.935	9.7971938	2807
6	313.986	7.254204	2015	10.2745796	18818.26654	6	6267.988	9.7974745	2806
7	316.450	7.256217	2013	10.2743783	18809.54553	7	6271.042	9.7977551	2805
8	318.913	7.258229	2011	10.2741771	18800.83352	8	6274.098	9.7980356	2804
9	321.376	7.260240	2009	10.2739760	18792.13151	9	6277.156	9.7983160	2804
10	323.839	7.262249	2008	10.2737751	18783.43850	10	6280.215	9.7985964	2803
11	326.301	7.264257	2007	10.2735743	18774.75549	11	6283.275	9.7988767	2802
12	328.763	7.266264	2005	10.2733736	18766.08248	12	6286.336	9.7991569	2801
13	331.224	7.268269	2004	10.2731731	18757.41847	13	6289.399	9.7994370	2800
14	333.685	7.270273	2003	10.2729727	18748.76446	14	6292.464	9.7997170	2800
15	336.145	7.272276	2002	10.2727724	18740.12045	15	6295.530	9.7999970	2799
16	338.605	7.274278	2000	10.2725722	18731.48544	16	6298.598	9.8002769	2798
17	341.064	7.276278	1999	10.2723722	18722.85943	17	6301.667	9.8005565	2798
18	343.523	7.278277	1998	10.2721723	18714.24342	18	6304.738	9.8008361	2796
19	345.982	7.280275	1996	10.2719725	18705.63741	19	6307.810	9.8011161	2796
20	348.440	7.282271	1996	10.2717729	18697.04040	20	6310.883	9.8013957	2795
21	350.898	7.284267	1993	10.2715733	18688.45339	21	6313.958	9.8016752	2794
22	353.355	7.286260	1993	10.2713740	18679.87538	22	6317.035	9.8019546	2794
23	355.812	7.288253	1991	10.2711747	18671.30637	23	6320.113	9.8022340	2793
24	358.268	7.290244	1990	10.2709756	18662.74736	24	6323.193	9.8025133	2792
25	360.724	7.292234	1989	10.2707766	18654.19735	25	6326.274	9.8027925	2791
26	363.179	7.294223	1988	10.2705777	18645.65734	26	6329.357	9.8030716	2790
27	365.634	7.296211	1986	10.2703790	18637.12633	27	6332.441	9.8033505	2790
28	368.088	7.298197	1985	10.2701803	18628.60532	28	6335.527	9.8036292	2789
29	370.542	7.300182	1983	10.2699818	18620.09331	29	6338.614	9.8039078	2788
30	372.995	7.302165	1983	10.2697835	18611.59030	30	6341.703	9.8041873	2788
31	375.449	7.304148	1981	10.2695852	18603.09629	31	6344.793	9.8044661	2786
32	377.902	7.306129	1980	10.2693871	18594.61228	32	6347.885	9.8047447	2786
33	380.354	7.308109	1978	10.2691891	18586.13827	33	6350.978	9.8050233	2786
34	382.806	7.310087	1977	10.2689913	18577.67226	34	6354.073	9.8053019	2784
35	385.257	7.312064	1976	10.2687936	18569.21625	35	6357.169	9.8055803	2784
36	387.708	7.314040	1975	10.2685960	18560.76924	36	6360.267	9.8058587	2783
37	390.158	7.316015	1974	10.2683985	18552.33123	37	6363.367	9.8061370	2782
38	392.608	7.317989	1972	10.2682011	18543.90322	38	6366.467	9.8064152	2781
39	395.058	7.319961	1971	10.2680039	18535.48321	39	6369.569	9.8066933	2781
40	397.507	7.321932	1970	10.2678068	18527.07320	40	6372.673	9.8069714	2780
41	399.955	7.323902	1968	10.2676098	18518.67219	41	6375.779	9.8072494	2779
42	402.403	7.325870	1967	10.2674130	18510.28118	42	6378.886	9.8075273	2779
43	404.851	7.327837	1966	10.2672163	18501.89817	43	6381.995	9.8078052	2777
44	407.298	7.329803	1965	10.2670197	18493.52516	44	6385.105	9.8080829	2777
45	409.745	7.331768	1963	10.2668232	18485.16115	45	6388.216	9.8083606	2777
46	412.191	7.333731	1962	10.2666269	18476.80514	46	6391.329	9.8086383	2775
47	414.637	7.335693	1961	10.2664307	18468.45913	47	6394.444	9.8089158	2775
48	417.082	7.337654	1960	10.2662346	18460.12312	48	6397.560	9.8091933	2774
49	419.527	7.339614	1958	10.2660386	18451.79511	49	6400.678	9.8094707	2773
50	421.971	7.341572	1957	10.2658428	18443.47610	50	6403.797	9.8097480	2773
51	424.415	7.343529	1956	10.2656471	18435.16699	51	6406.918	9.8100253	2772
52	426.859	7.345485	1955	10.2654515	18426.86698	52	6410.041	9.8103025	2771
53	429.302	7.347440	1953	10.2652560	18418.57497	53	6413.165	9.8105796	2770
54	431.744	7.349393	1952	10.2650607	18410.29296	54	6416.290	9.8108566	2770
55	434.186	7.351345	1951	10.2648655	18402.01895	55	6419.417	9.8111336	2769
56	436.628	7.353296	1950	10.2646704	18393.75394	56	6422.546	9.8114105	2768
57	439.069	7.355246	1949	10.2644754	18385.49893	57	6425.676	9.8116873	2768
58	441.510	7.357195	1947	10.2642805	18377.25392	58	6428.808	9.8119641	2767
59	443.950	7.359142	1946	10.2640858	18369.01391	59	6431.941	9.8122408	2766
60	446.390	7.361088		10.2638912	18360.78490	60	6435.076	9.8125174	

			32 N. Sec.			L. Sec.			D.		
10.2042108	16003.345	60	0	11791.784	10.0715795	790	9.9284205	8480.481	60		
10.2039297	15992.991	59	1	11793.928	10.0716585	790	9.9283415	8478.939	59		
10.2036487	15982.647	58	2	11796.074	10.0717375	791	9.9282625	8477.396	58		
10.2033678	15972.312	57	3	11798.222	10.0718166	791	9.9281834	8475.853	57		
10.2030870	15961.987	56	4	11800.372	10.0718957	792	9.9281043	8474.309	56		
10.2028062	15951.672	55	5	11802.523	10.0719748	792	9.9280251	8472.764	55		
10.2025255	15941.356	54	6	11804.676	10.0720541	793	9.9279459	8471.219	54		
10.2022449	15931.070	53	7	11806.831	10.0721334	793	9.9278666	8469.673	53		
10.2019644	15920.783	52	8	11808.988	10.0722127	794	9.9277873	8468.126	52		
10.2016840	15910.505	51	9	11811.147	10.0722921	794	9.9277079	8466.578	51		
10.2014036	15900.238	50	10	11813.307	10.0723715	795	9.9276285	8465.030	50		
10.2011233	15889.979	49	11	11815.469	10.0724510	795	9.9275490	8463.481	49		
10.2008431	15879.730	48	12	11817.633	10.0725305	796	9.9274695	8461.931	48		
10.2005630	15869.491	47	13	11819.799	10.0726101	796	9.9273899	8460.381	47		
10.2002830	15859.261	46	14	11821.966	10.0726897	797	9.9273103	8458.830	46		
10.2000030	15849.041	45	15	11824.135	10.0727694	797	9.9272306	8457.278	45		
10.1997231	15838.830	44	16	11826.306	10.0728491	798	9.9271509	8455.725	44		
10.1994433	15828.628	43	17	11828.479	10.0729289	798	9.9270711	8454.172	43		
10.1991635	15818.436	42	18	11830.654	10.0730087	799	9.9269913	8452.618	42		
10.1988839	15808.253	41	19	11832.830	10.0730886	800	9.9269114	8451.065	41		
10.1986043	15798.079	40	20	11835.008	10.0731686	800	9.9268314	8449.508	40		
10.1983248	15787.915	39	21	11837.188	10.0732486	800	9.9267514	8447.952	39		
10.1980454	15777.760	38	22	11839.370	10.0733286	801	9.9266714	8446.395	38		
10.1977660	15767.615	37	23	11841.554	10.0734087	801	9.9265913	8444.837	37		
10.1974867	15757.479	36	24	11843.740	10.0734888	801	9.9265112	8443.279	36		
10.1972075	15747.352	35	25	11845.927	10.0735690	803	9.9264310	8441.720	35		
10.1969284	15737.234	34	26	11848.116	10.0736493	803	9.9263507	8440.160	34		
10.1966494	15727.126	33	27	11850.307	10.0737296	803	9.9262704	8438.600	33		
10.1963704	15717.026	32	28	11852.500	10.0738099	805	9.9261901	8437.039	32		
10.1960915	15706.936	31	29	11854.694	10.0738904	804	9.9261096	8435.477	31		
10.1958127	15696.856	30	30	11856.891	10.0739708	805	9.9260292	8433.914	30		
10.1955339	15686.784	29	31	11859.089	10.0740513	806	9.9259487	8432.351	29		
10.1952553	15676.722	28	32	11861.289	10.0741319	806	9.9258681	8430.787	28		
10.1949767	15666.669	27	33	11863.491	10.0742125	807	9.9257875	8429.222	27		
10.1946981	15656.625	26	34	11865.695	10.0742931	808	9.9257069	8427.657	26		
10.1944197	15646.590	25	35	11867.900	10.0743739	807	9.9256261	8426.091	25		
10.1941413	15636.564	24	36	11870.107	10.0744546	808	9.9255454	8424.524	24		
10.1938630	15626.548	23	37	11872.316	10.0745354	809	9.9254646	8422.956	23		
10.1935848	15616.540	22	38	11874.527	10.0746163	809	9.9253837	8421.388	22		
10.1933067	15606.542	21	39	11876.740	10.0746972	810	9.9253028	8419.819	21		
10.1930286	15596.552	20	40	11878.955	10.0747782	810	9.9252218	8418.249	20		
10.1927506	15586.572	19	41	11881.171	10.0748592	811	9.9251408	8416.679	19		
10.1924727	15576.601	18	42	11883.389	10.0749403	811	9.9250597	8415.108	18		
10.1921948	15566.639	17	43	11885.609	10.0750214	812	9.9249786	8413.536	17		
10.1919171	15556.685	16	44	11887.831	10.0751026	813	9.9248974	8411.963	16		
10.1916394	15546.741	15	45	11890.055	10.0751839	812	9.9248161	8410.390	15		
10.1913617	15536.806	14	46	11892.281	10.0752651	814	9.9247349	8408.816	14		
10.1910842	15526.880	13	47	11894.508	10.0753465	814	9.9246535	8407.241	13		
10.1908067	15516.963	12	48	11896.737	10.0754279	814	9.9245721	8405.666	12		
10.1905293	15507.054	11	49	11898.968	10.0755093	815	9.9244907	8404.090	11		
10.1902520	15497.159	10	50	11901.201	10.0755908	815	9.9244092	8402.513	10		
10.1899747	15487.264	9	51	11903.436	10.0756723	816	9.9243277	8400.935	9		
10.1896975	15477.383	8	52	11905.673	10.0757539	817	9.9242461	8399.357	8		
10.1894204	15467.510	7	53	11907.911	10.0758356	817	9.9241644	8397.778	7		
10.1891434	15457.646	6	54	11910.152	10.0759173	817	9.9240827	8396.198	6		
10.1888664	15447.792	5	55	11912.394	10.0759990	819	9.9240010	8394.618	5		
10.1885895	15437.946	4	56	11914.638	10.0760809	818	9.9239191	8393.037	4		
10.1883127	15428.108	3	57	11916.884	10.0761627	819	9.9238373	8391.455	3		
10.1880359	15418.280	2	58	11919.132	10.0762447	820	9.9237554	8389.873	2		
10.1877591	15408.460	1	59	11921.382	10.0763266	820	9.9236734	8388.293	1		
10.1874825	15398.650	0	60	11923.633	10.0764086	821	9.9235914	8386.706	0		

L. Tan.

N. Tan. 57

D. L. Sin.

N. Sin. 57

33	N. Sin.	L. Sin.	Dif.			33	N. Tan.	L. Tan.	Dit.
0	5446.390	9.7361088		10.2638912	18360.784	60	06494.076	9.8125174	2765
1	5448.830	9.7363032	1944	10.2636968	18352.564	59	16498.212	9.8127939	2765
2	5451.269	9.7364976	1944	10.2635024	18344.353	58	26502.350	9.8130704	2764
3	5453.707	9.7366919	1942	10.2633082	18336.151	57	36506.490	9.8133468	2763
4	5456.145	9.7368859	1941	10.2631141	18327.958	56	46510.631	9.8136231	2762
5	5458.583	9.7370799	1940	10.2629201	18319.774	55	56514.774	9.8138993	2762
6	5461.020	9.7372737	1938	10.2627263	18311.599	54	66518.918	9.8141755	2761
7	5463.456	9.7374675	1938	10.2625325	18303.432	53	76523.064	9.8144516	2761
8	5465.892	9.7376611	1936	10.2623389	18295.274	52	86527.211	9.8147277	2759
9	5468.328	9.7378546	1935	10.2621454	18287.125	51	96531.360	9.8150036	2759
10	5470.763	9.7380479	1933	10.2619521	18278.985	50	106535.511	9.8152795	2758
11	5473.198	9.7382412	1931	10.2617588	18270.854	49	116539.663	9.8155554	2757
12	5475.632	9.7384343	1931	10.2615657	18262.731	48	126543.817	9.8158311	2757
13	5478.066	9.7386275	1930	10.2613727	18254.617	47	136547.972	9.8161068	2756
14	5480.499	9.7388201	1928	10.2611799	18246.512	46	146552.129	9.8163824	2756
15	5482.932	9.7390129	1926	10.2609871	18238.416	45	156556.287	9.8166580	2755
16	5485.365	9.7392055	1926	10.2607945	18230.328	44	166560.447	9.8169335	2754
17	5487.797	9.7393980	1924	10.2606020	18222.249	43	176564.609	9.8172089	2753
18	5490.229	9.7395904	1924	10.2604096	18214.179	42	186568.772	9.8174842	2753
19	5492.659	9.7397827	1923	10.2602173	18206.118	41	196572.937	9.8177595	2752
20	5495.090	9.7399748	1921	10.2600252	18198.065	40	206577.103	9.8180347	2751
21	5497.520	9.7401668	1920	10.2598332	18190.021	39	216581.271	9.8183098	2751
22	5499.950	9.7403587	1919	10.2596413	18181.985	38	226585.441	9.8185849	2750
23	5502.379	9.7405505	1918	10.2594495	18173.958	37	236589.612	9.8188599	2749
24	5504.808	9.7407421	1916	10.2592579	18165.940	36	246593.785	9.8191348	2748
25	5507.236	9.7409337	1916	10.2590663	18157.930	35	256597.959	9.8194096	2748
26	5509.664	9.7411251	1914	10.2588749	18149.929	34	266602.135	9.8196844	2748
27	5512.091	9.7413164	1913	10.2586836	18141.937	33	276606.313	9.8199592	2747
28	5514.518	9.7415075	1911	10.2584925	18133.953	32	286610.492	9.8202338	2746
29	5516.944	9.7416985	1911	10.2583014	18125.977	31	296614.673	9.8205084	2745
30	5519.370	9.7418895	1909	10.2581105	18118.010	30	306618.856	9.8207829	2745
31	5521.795	9.7420803	1908	10.2579197	18110.052	29	316623.040	9.8210574	2744
32	5524.220	9.7422710	1907	10.2577290	18102.102	28	326627.226	9.8213317	2743
33	5526.645	9.7424616	1906	10.2575384	18094.161	27	336631.413	9.8216060	2743
34	5529.069	9.7426520	1904	10.2573480	18086.228	26	346635.602	9.8218803	2742
35	5531.492	9.7428423	1903	10.2571577	18078.304	25	356639.792	9.8221545	2741
36	5533.915	9.7430325	1902	10.2569675	18070.388	24	366643.984	9.8224286	2740
37	5536.338	9.7432226	1901	10.2567774	18062.481	23	376648.178	9.8227026	2740
38	5538.760	9.7434125	1900	10.2565874	18054.582	22	386652.373	9.8229766	2739
39	5541.182	9.7436024	1898	10.2563976	18046.691	21	396656.570	9.8232505	2739
40	5543.603	9.7437921	1897	10.2562079	18038.809	20	406660.769	9.8235244	2737
41	5546.024	9.7439817	1896	10.2560183	18030.935	19	416664.969	9.8237981	2738
42	5548.444	9.7441712	1895	10.2558288	18023.070	18	426669.171	9.8240719	2736
43	5550.864	9.7443606	1894	10.2556394	18015.213	17	436673.375	9.8243455	2736
44	5553.283	9.7445498	1892	10.2554502	18007.365	16	446677.580	9.8246191	2735
45	5555.702	9.7447390	1891	10.2552610	17999.525	15	456681.787	9.8248926	2734
46	5558.121	9.7449280	1890	10.2550720	17991.693	14	466685.995	9.8251660	2734
47	5560.539	9.7451169	1889	10.2548831	17983.869	13	476690.205	9.8254394	2733
48	5562.956	9.7453056	1887	10.2546944	17976.054	12	486694.417	9.8257127	2733
49	5565.373	9.7454943	1887	10.2545057	17968.247	11	496698.630	9.8259860	2731
50	5567.790	9.7456828	1885	10.2543172	17960.448	10	506702.845	9.8262592	2731
51	5570.206	9.7458712	1884	10.2541288	17952.658	9	516707.062	9.8265323	2730
52	5572.621	9.7460595	1883	10.2539405	17944.876	8	526711.280	9.8268053	2730
53	5575.036	9.7462477	1882	10.2537523	17937.102	7	536715.500	9.8270783	2729
54	5577.451	9.7464358	1881	10.2535642	17929.337	6	546719.721	9.8273513	2728
55	5579.865	9.7466237	1879	10.2533763	17921.580	5	556723.944	9.8276241	2728
56	5582.279	9.7468115	1878	10.2531885	17913.831	4	566728.169	9.8278969	2727
57	5584.692	9.7469992	1877	10.2530008	17906.090	3	576732.396	9.8281696	2727
58	5587.105	9.7471868	1876	10.2528132	17898.358	2	586736.624	9.8284423	2726
59	5589.517	9.7473743	1875	10.2526257	17890.633	1	596740.854	9.8287149	2725
60	5591.929	9.7475617	1874	10.2524383	17882.916	0	606745.085	9.8289874	2725
			Dif.	L. Sec.	N. Sec.	156			Dit.

			33	N. Sec.	L. Sec.	D			
10.187425	15398.650	60	0	11923.633	10.0764086	821	9.9235914	8386.706	60
10.1872061	15388.848	59	1	11925.886	10.0764907	821	9.9235093	8385.121	59
10.1869296	15379.055	58	2	11928.141	10.0765728	821	9.9234272	8383.536	58
10.1866532	15369.270	57	3	11930.398	10.0766550	822	9.9233450	8381.950	57
10.1863769	15359.494	56	4	11932.657	10.0767371	822	9.9232628	8380.363	56
10.1861007	15349.727	55	5	11934.918	10.0768192	822	9.9231805	8378.775	55
10.1858245	15339.969	54	6	11937.181	10.0769018	822	9.9230982	8377.187	54
10.1855484	15330.220	53	7	11939.446	10.0769841	824	9.9230158	8375.598	53
10.1852723	15320.479	52	8	11941.712	10.0770666	824	9.9229334	8374.008	52
10.1849964	15310.747	51	9	11943.980	10.0771491	825	9.9228509	8372.418	51
10.1847205	15301.023	50	10	11946.250	10.0772316	825	9.9227684	8370.827	50
10.1844446	15291.308	49	11	11948.522	10.0773142	826	9.9226858	8369.235	49
10.1841689	15281.602	48	12	11950.796	10.0773969	827	9.9226032	8367.643	48
10.1838932	15271.904	47	13	11953.072	10.0774795	826	9.9225205	8366.050	47
10.1836176	15262.215	46	14	11955.350	10.0775623	828	9.9224377	8364.456	46
10.1833420	15252.535	45	15	11957.630	10.0776451	828	9.9223549	8362.861	45
10.1830665	15242.863	44	16	11959.911	10.0777279	828	9.9222721	8361.266	44
10.1827911	15233.200	43	17	11962.194	10.0778109	830	9.9221891	8359.670	43
10.1825158	15223.545	42	18	11964.479	10.0778938	829	9.9221062	8358.073	42
10.1822405	15213.899	41	19	11966.766	10.0779768	830	9.9220232	8356.476	41
10.1819653	15204.261	40	20	11969.055	10.0780599	831	9.9219401	8354.878	40
10.1816903	15194.632	39	21	11971.346	10.0781430	831	9.9218570	8353.279	39
10.1814151	15185.012	38	22	11973.639	10.0782261	832	9.9217738	8351.680	38
10.1811401	15175.400	37	23	11975.934	10.0783094	833	9.9216906	8350.080	37
10.1808652	15165.796	36	24	11978.231	10.0783927	833	9.9216073	8348.479	36
10.1805904	15156.201	35	25	11980.529	10.0784760	833	9.9215240	8346.877	35
10.1803156	15146.614	34	26	11982.829	10.0785594	834	9.9214406	8345.275	34
10.1800408	15137.036	33	27	11985.131	10.0786428	834	9.9213572	8343.672	33
10.1797662	15127.466	32	28	11987.435	10.0787263	835	9.9212737	8342.068	32
10.1794916	15117.905	31	29	11989.741	10.0788098	835	9.9211902	8340.463	31
10.1792171	15108.352	30	30	11992.049	10.0788934	836	9.9211066	8338.855	30
10.1789426	15098.807	29	31	11994.359	10.0789771	837	9.9210229	8337.252	29
10.1786683	15089.271	28	32	11996.671	10.0790607	838	9.9209393	8335.645	28
10.1783940	15079.743	27	33	11998.985	10.0791445	838	9.9208555	8334.038	27
10.1781197	15070.224	26	34	12001.301	10.0792283	839	9.9207717	8332.430	26
10.1778455	15060.713	25	35	12003.619	10.0793122	839	9.9206878	8330.821	25
10.1775714	15051.210	24	36	12005.938	10.0793961	839	9.9206039	8329.212	24
10.1772974	15041.716	23	37	12008.259	10.0794800	840	9.9205200	8327.602	23
10.1770234	15032.230	22	38	12005.582	10.0795640	841	9.9204360	8325.991	22
10.1767495	15022.752	21	39	12011.907	10.0796481	841	9.9203519	8324.380	21
10.1764756	15013.282	20	40	12015.234	10.0797322	842	9.9202678	8322.768	20
10.1762019	15003.820	19	41	12017.563	10.0798164	842	9.9201836	8321.155	19
10.1759281	14994.367	18	42	12019.894	10.0799006	843	9.9200994	8319.541	18
10.1756545	14984.922	17	43	12022.227	10.0799849	843	9.9200151	8317.927	17
10.1753809	14975.486	16	44	12024.562	10.0800692	844	9.9199308	8316.312	16
10.1751074	14966.058	15	45	12026.899	10.0801536	845	9.9198464	8314.696	15
10.1748340	14956.638	14	46	12029.237	10.0802381	845	9.9197619	8313.079	14
10.1745606	14947.226	13	47	12031.577	10.0803225	846	9.9196775	8311.462	13
10.1742873	14937.822	12	48	12033.919	10.0804071	846	9.9195929	8309.844	12
10.1740140	14928.426	11	49	12036.264	10.0804917	846	9.9195083	8308.227	11
10.1737408	14919.038	10	50	12038.610	10.0805763	847	9.9194237	8306.607	10
10.1734677	14909.659	9	51	12040.958	10.0806610	848	9.9193390	8304.987	9
10.1731947	14900.288	8	52	12043.308	10.0807458	848	9.9192542	8303.366	8
10.1729217	14890.925	7	53	12045.660	10.0808306	849	9.9191694	8301.745	7
10.1726487	14881.570	6	54	12048.014	10.0809155	849	9.9190845	8300.123	6
10.1723759	14872.223	5	55	12050.370	10.0810004	850	9.9189996	8298.500	5
10.1721031	14862.884	4	56	12052.728	10.0810854	850	9.9189146	8296.876	4
10.1718304	14853.553	3	57	12055.088	10.0811704	851	9.9188296	8295.253	3
10.1715577	14844.230	2	58	12057.450	10.0812555	851	9.9187445	8293.627	2
10.1712851	14834.916	1	59	12059.814	10.0813406	852	9.9186594	8292.002	1
10.1710126	14825.610	0	60	12062.180	10.0814258	852	9.9185742	8290.376	0
L. Tan.	N. Tan.	56							

34	N. Sin.	L. Sin.	Dif.			34	N. Tan.	L. Tan.	Dit.
0	5591.922	9.7475617		10.2524383	17882.91660	0	6745.085	9.8289874	2725
1	5594.340	9.7477489	1872	10.2522511	17875.20859	1	6749.318	9.8292599	2724
2	5596.751	9.7479360	1871	10.2520640	17867.50858	2	6753.553	9.8295323	2723
3	5599.161	9.7481230	1870	10.2518770	17859.81757	3	6757.790	9.8298047	2722
4	5601.571	9.7483099	1869	10.2516901	17852.13356	4	6762.028	9.8300769	2721
5	5603.981	9.7484967	1868	10.2515033	17844.45755	5	6766.268	9.8303492	2720
6	5606.390	9.7486833	1866	10.2513167	17836.79054	6	6770.509	9.8306213	2719
7	5608.798	9.7488698	1865	10.2511302	17829.13153	7	6774.752	9.8308934	2718
8	5611.206	9.7490562	1864	10.2509438	17821.47952	8	6778.997	9.8311654	2717
9	5613.614	9.7492425	1863	10.2507575	17813.83651	9	6783.244	9.8314374	2716
10	5616.021	9.7494287	1862	10.2505713	17806.20150	10	6787.492	9.8317093	2715
11	5618.428	9.7496148	1861	10.2503852	17798.57449	11	6791.742	9.8319811	2714
12	5620.834	9.7498007	1859	10.2501993	17790.95548	12	6795.993	9.8322529	2713
13	5623.239	9.7499866	1859	10.2500134	17783.34347	13	6800.246	9.8325246	2712
14	5625.644	9.7501723	1857	10.2498277	17775.74046	14	6804.501	9.8327963	2711
15	5628.049	9.7503579	1856	10.2496421	17768.14545	15	6808.758	9.8330679	2710
16	5630.453	9.7505434	1855	10.2494566	17760.55844	16	6813.016	9.8333394	2709
17	5632.857	9.7507287	1853	10.2492713	17752.97943	17	6817.276	9.8336109	2708
18	5635.260	9.7509140	1853	10.2490860	17745.40842	18	6821.538	9.8338823	2707
19	5637.663	9.7510991	1851	10.2489009	17737.84541	19	6825.801	9.8341536	2706
20	5640.065	9.7512842	1851	10.2487158	17730.29040	20	6830.066	9.8344249	2705
21	5642.467	9.7514691	1849	10.2485309	17722.74339	21	6834.333	9.8346961	2704
22	5644.869	9.7516538	1847	10.2483462	17715.20438	22	6838.601	9.8349673	2703
23	5647.270	9.7518383	1847	10.2481615	17707.67337	23	6842.871	9.8352384	2702
24	5649.670	9.7520231	1846	10.2479769	17700.14936	24	6847.143	9.8355094	2701
25	5652.070	9.7522075	1844	10.2477925	17692.63335	25	6851.417	9.8357804	2700
26	5654.469	9.7523919	1844	10.2476081	17685.12534	26	6855.692	9.8360513	2699
27	5656.868	9.7525761	1842	10.2474239	17677.62533	27	6859.969	9.8363221	2698
28	5659.267	9.7527602	1841	10.2472398	17670.13332	28	6864.247	9.8365929	2697
29	5661.665	9.7529442	1840	10.2470558	17662.64931	29	6868.527	9.8368636	2696
30	5664.062	9.7531280	1838	10.2468720	17655.17330	30	6872.810	9.8371343	2695
31	5666.459	9.7533118	1838	10.2466882	17647.70429	31	6877.094	9.8374049	2694
32	5668.856	9.7534954	1836	10.2465046	17640.24328	32	6881.379	9.8376755	2693
33	5671.252	9.7536790	1834	10.2463210	17632.79127	33	6885.666	9.8379460	2692
34	5673.648	9.7538624	1834	10.2461376	17625.34526	34	6889.955	9.8382164	2691
35	5676.043	9.7540457	1833	10.2459543	17617.90825	35	6894.246	9.8384867	2690
36	5678.437	9.7542288	1831	10.2457712	17610.47824	36	6898.538	9.8387571	2689
37	5680.831	9.7544119	1831	10.2455881	17603.05623	37	6902.832	9.8390273	2688
38	5683.225	9.7545949	1830	10.2454051	17595.64222	38	6907.128	9.8392975	2687
39	5685.618	9.7547777	1828	10.2452223	17588.23621	39	6911.425	9.8395676	2686
40	5688.011	9.7549604	1827	10.2450396	17580.83720	40	6915.724	9.8398377	2685
41	5690.403	9.7551431	1825	10.2448569	17573.44619	41	6920.025	9.8401077	2684
42	5692.795	9.7553256	1825	10.2446744	17566.06318	42	6924.328	9.8403776	2683
43	5695.186	9.7555080	1824	10.2444920	17558.68717	43	6928.633	9.8406475	2682
44	5697.577	9.7556902	1822	10.2443098	17551.31916	44	6932.939	9.8409174	2681
45	5699.968	9.7558724	1820	10.2441276	17543.95915	45	6937.247	9.8411871	2680
46	5702.358	9.7560544	1820	10.2439456	17536.60714	46	6941.557	9.8414569	2679
47	5704.747	9.7562364	1818	10.2437636	17529.26213	47	6945.868	9.8417265	2678
48	5707.136	9.7564182	1818	10.2435818	17521.92412	48	6950.181	9.8419961	2677
49	5709.524	9.7565999	1817	10.2434001	17514.59411	49	6954.496	9.8422657	2676
50	5711.912	9.7567815	1816	10.2432185	17507.27310	50	6958.813	9.8425351	2675
51	5714.299	9.7569630	1815	10.2430370	17499.95809	51	6963.131	9.8428046	2674
52	5716.686	9.7571444	1814	10.2428556	17492.65108	52	6967.451	9.8430739	2673
53	5719.073	9.7573256	1812	10.2426744	17485.35207	53	6971.773	9.8433432	2672
54	5721.459	9.7575068	1812	10.2424932	17478.06006	54	6976.097	9.8436125	2671
55	5723.844	9.7576878	1810	10.2423122	17470.77605	55	6980.422	9.8438817	2670
56	5726.229	9.7578687	1809	10.2421313	17463.49904	56	6984.749	9.8441508	2669
57	5728.614	9.7580495	1808	10.2419505	17456.23003	57	6989.078	9.8444199	2668
58	5730.998	9.7582302	1806	10.2417698	17448.96902	58	6993.409	9.8446889	2667
59	5733.381	9.7584108	1805	10.2415892	17441.71501	59	6997.741	9.8449579	2666
60	5735.764	9.7585913	1805	10.2414087	17434.46800	60	7002.075	9.8452268	2665
			Dit.	L. Sec.	N. Sec.				Dit.

		34	N. Sec.	L. Sec.	D.		
10.1710126	14825.61060	1	12062.180	10.0814258	852	9.9185742	8290.37660
10.1707401	14816.31159	1	12064.548	10.0815110	853	9.9184890	8288.74959
10.1704677	14807.02158	2	12066.918	10.0815963	854	9.9184037	8287.12158
10.1701953	14797.73857	3	12069.289	10.0816817	855	9.9183183	8285.49357
10.1699231	14788.46356	4	12071.662	10.0817671	856	9.9182329	8283.86456
10.1696508	14779.19755	5	12074.037	10.0818525	857	9.9181475	8282.23455
10.1693787	14769.93854	6	12076.414	10.0819380	858	9.9180620	8280.60354
10.1691066	14760.68853	7	12078.793	10.0820236	859	9.9179764	8278.97253
10.1688346	14751.44552	8	12081.175	10.0821092	860	9.9178908	8277.34052
10.1685626	14742.21051	9	12083.559	10.0821949	861	9.9178051	8275.70751
10.1682907	14732.98350	10	12085.944	10.0822806	862	9.9177194	8274.07450
10.1680189	14723.76449	11	12088.331	10.0823664	863	9.9176336	8272.44049
10.1677471	14714.53348	12	12090.720	10.0824522	864	9.9175478	8270.80548
10.1674754	14705.35047	13	12093.112	10.0825381	865	9.9174619	8269.17047
10.1672037	14696.16546	14	12095.505	10.0826240	866	9.9173760	8267.53446
10.1669321	14686.98745	15	12097.900	10.0827100	867	9.9172900	8265.89745
10.1666606	14677.78744	16	12100.297	10.0827960	868	9.9172040	8264.26044
10.1663891	14668.61643	17	12102.696	10.0828821	869	9.9171179	8262.62243
10.1661177	14659.45242	18	12105.097	10.0829683	870	9.9170317	8260.98342
10.1658464	14650.29641	19	12107.500	10.0830545	871	9.9169455	8259.34341
10.1655751	14641.14740	20	12109.905	10.0831407	872	9.9168593	8257.70340
10.1653039	14632.00739	21	12112.312	10.0832270	873	9.9167730	8256.06239
10.1650327	14622.87438	22	12114.721	10.0833134	874	9.9166868	8254.42038
10.1647616	14613.74937	23	12117.132	10.0833998	875	9.9166001	8252.77837
10.1644906	14604.63236	24	12119.545	10.0834863	876	9.9165137	8251.13536
10.1642196	14595.52235	25	12121.960	10.0835728	877	9.9164272	8249.49135
10.1639487	14586.42034	26	12124.377	10.0836594	878	9.9163406	8247.84734
10.1636779	14577.32633	27	12126.796	10.0837461	879	9.9162539	8246.20233
10.1634071	14568.24032	28	12129.217	10.0838327	880	9.9161673	8244.55632
10.1631364	14559.16131	29	12131.640	10.0839195	881	9.9160805	8242.90931
10.1628657	14550.09030	30	12134.064	10.0840063	882	9.9159937	8241.26230
10.1625951	14541.02729	31	12136.491	10.0840931	883	9.9159069	8239.61429
10.1623245	14531.97128	32	12138.920	10.0841800	884	9.9158200	8237.96528
10.1620540	14522.92327	33	12141.351	10.0842670	885	9.9157330	8236.31727
10.1617836	14513.88326	34	12143.783	10.0843540	886	9.9156460	8234.66626
10.1615133	14504.85025	35	12146.218	10.0844411	887	9.9155589	8233.01525
10.1612429	14495.82524	36	12148.655	10.0845282	888	9.9154718	8231.36424
10.1609727	14486.80823	37	12151.094	10.0846154	889	9.9153846	8229.71223
10.1607025	14477.79822	38	12153.535	10.0847026	890	9.9152974	8228.05922
10.1604324	14468.79621	39	12155.978	10.0847899	891	9.9152101	8226.40521
10.1601623	14459.80120	40	12158.423	10.0848772	892	9.9151228	8224.75120
10.1598923	14450.81419	41	12160.870	10.0849646	893	9.9150354	8223.09619
10.1596224	14441.83418	42	12163.319	10.0850521	894	9.9149479	8221.44018
10.1593525	14432.86217	43	12165.770	10.0851396	895	9.9148604	8219.78417
10.1590826	14423.89716	44	12168.223	10.0852271	896	9.9147729	8218.12716
10.1588129	14414.94015	45	12170.678	10.0853148	897	9.9146852	8216.46915
10.1585431	14405.99114	46	12173.135	10.0854024	898	9.9145976	8214.81114
10.1582735	14397.04913	47	12175.594	10.0854901	899	9.9145099	8213.15213
10.1580039	14388.11412	48	12178.055	10.0855779	900	9.9144221	8211.49212
10.1577343	14379.18711	49	12180.518	10.0856658	901	9.9143342	8209.83111
10.1574649	14370.26010	50	12182.983	10.0857536	902	9.9142464	8208.17010
10.1571954	14361.3569	51	12185.450	10.0858416	903	9.9141584	8206.5089
10.1569261	14352.4518	52	12187.919	10.0859296	904	9.9140704	8204.8468
10.1566568	14343.5547	53	12190.390	10.0860176	905	9.9139824	8203.1837
10.1563875	14334.6646	54	12192.864	10.0861057	906	9.9138943	8201.5196
10.1561183	14325.7815	55	12195.339	10.0861939	907	9.9138061	8199.8545
10.1558492	14316.9064	56	12197.816	10.0862821	908	9.9137179	8198.1894
10.1555801	14308.0393	57	12200.296	10.0863704	909	9.9136296	8196.5233
10.1553111	14299.1782	58	12202.777	10.0864587	910	9.9135413	8194.8552
10.1550421	14290.3261	59	12205.260	10.0865471	911	9.9134530	8193.1871
10.1547732	14281.4800	60	12207.746	10.0866355	912	9.9133645	8191.5210
L. Tan.	N. Tan.55					D. L. Sin.	N. Sin.55

35	N. Sin.	L. Sin.	Dit.			35	N. Tan.	L. Tan.	Dit.
0	5735.764	4.785913	1804	10.2414087	17434.468	60	67002.075	9.8452268	2688
1	5738.147	9.7587717	1802	10.2412283	17427.229	59	17006.411	9.8454956	2688
2	5740.529	9.7589519	1802	10.2410481	17419.997	58	17010.749	9.8457644	2688
3	5742.911	9.7591321	1800	10.2408679	17412.773	57	37015.089	9.8460332	2686
4	5745.292	9.7593121	1799	10.2406879	17405.556	56	47019.430	9.8463018	2687
5	5747.672	9.7594920	1798	10.2405080	17398.347	55	57023.773	9.8465705	2685
6	5750.052	9.7596718	1798	10.2403282	17391.145	54	67028.118	9.8468390	2685
7	5752.432	9.7598515	1797	10.2401485	17383.951	53	77032.465	9.8471075	2685
8	5754.811	9.7600311	1796	10.2399689	17376.764	52	87036.813	9.8473760	2684
9	5757.190	9.7602106	1795	10.2397894	17369.585	51	97041.163	9.8476444	2683
10	5759.568	9.7603899	1793	10.2396101	17362.413	50	107045.515	9.8479127	2683
11	5761.946	9.7605692	1793	10.2394308	17355.247	49	117049.869	9.8481810	2682
12	5764.323	9.7607483	1791	10.2392517	17348.090	48	127054.224	9.8484492	2682
13	5766.700	9.7609274	1791	10.2390726	17340.941	47	137058.581	9.8487174	2681
14	5769.076	9.7611063	1789	10.2388937	17333.798	46	147062.940	9.8489855	2681
15	5771.452	9.7612851	1788	10.2387149	17326.663	45	157067.301	9.8492536	2680
16	5773.827	9.7614638	1787	10.2385362	17319.535	44	167071.664	9.8495216	2680
17	5776.202	9.7616424	1784	10.2383576	17312.414	43	177076.029	9.8497896	2679
18	5778.576	9.7618208	1784	10.2381792	17305.301	42	187080.395	9.8500575	2678
19	5780.950	9.7619992	1783	10.2380008	17298.195	41	197084.763	9.8503253	2678
20	5783.323	9.7621775	1781	10.2378225	17291.096	40	207089.133	9.8505931	2677
21	5785.696	9.7623556	1781	10.2376444	17283.905	39	217093.505	9.8508608	2677
22	5788.068	9.7625337	1779	10.2374663	17276.921	38	227097.878	9.8511285	2676
23	5790.440	9.7627116	1779	10.2372884	17269.844	37	237102.253	9.8513961	2676
24	5792.812	9.7628894	1778	10.2371106	17262.774	36	247106.630	9.8516637	2675
25	5795.183	9.7630671	1777	10.2369329	17255.712	35	257111.009	9.8519312	2675
26	5797.553	9.7632447	1775	10.2367553	17248.657	34	267115.390	9.8521987	2674
27	5799.922	9.7634222	1774	10.2365778	17241.609	33	277119.773	9.8524661	2674
28	5802.292	9.7635996	1773	10.2364004	17234.568	32	287124.157	9.8527335	2673
29	5804.661	9.7637769	1771	10.2362231	17227.534	31	297128.543	9.8530008	2672
30	5807.030	9.7639540	1771	10.2360460	17220.508	30	307132.931	9.8532680	2672
31	5809.398	9.7641311	1769	10.2358689	17213.489	29	317137.321	9.8535351	2671
32	5811.765	9.7643080	1769	10.2356920	17206.477	28	327141.713	9.8538023	2671
33	5814.132	9.7644849	1767	10.2355151	17199.472	27	337146.106	9.8540694	2671
34	5816.498	9.7646616	1766	10.2353384	17192.475	26	347150.501	9.8543365	2669
35	5818.864	9.7648382	1765	10.2351618	17185.484	25	357154.898	9.8546034	2670
36	5821.230	9.7650147	1764	10.2349853	17178.501	24	367159.297	9.8548704	2668
37	5823.595	9.7651911	1763	10.2348089	17171.525	23	377163.698	9.8551372	2669
38	5825.959	9.7653674	1762	10.2346326	17164.556	22	387168.101	9.8554041	2667
39	5828.323	9.7655436	1761	10.2344564	17157.594	21	397172.505	9.8556708	2668
40	5830.687	9.7657197	1760	10.2342803	17150.639	20	407176.911	9.8559376	2666
41	5833.050	9.7658957	1758	10.2341043	17143.691	19	417181.319	9.8562042	2666
42	5835.412	9.7660715	1758	10.2339285	17136.750	18	427185.729	9.8564708	2666
43	5837.774	9.7662473	1756	10.2337527	17129.817	17	437190.141	9.8567374	2665
44	5840.136	9.7664229	1756	10.2335771	17122.890	16	447194.555	9.8570039	2665
45	5842.497	9.7665985	1754	10.2334015	17115.970	15	457198.970	9.8572704	2664
46	5844.857	9.7667739	1753	10.2332261	17109.058	14	467203.387	9.8575368	2663
47	5847.217	9.7669492	1752	10.2330508	17102.152	13	477207.806	9.8578031	2663
48	5849.577	9.7671244	1752	10.2328756	17095.254	12	487212.227	9.8580694	2662
49	5851.936	9.7672997	1750	10.2327004	17088.362	11	497216.650	9.8583357	2661
50	5854.294	9.7674746	1748	10.2325254	17081.478	10	507221.075	9.8586019	2661
51	5856.652	9.7676494	1748	10.2323506	17074.600	9	517225.502	9.8588680	2661
52	5859.010	9.7678242	1747	10.2321758	17067.730	8	527229.931	9.8591341	2661
53	5861.367	9.7679989	1746	10.2320011	17060.866	7	537234.361	9.8594002	2659
54	5863.724	9.7681735	1745	10.2318265	17054.010	6	547238.793	9.8596661	2660
55	5866.080	9.7683480	1743	10.2316520	17047.160	5	557243.227	9.8599321	2659
56	5868.435	9.7685223	1743	10.2314777	17040.318	4	567247.663	9.8601980	2658
57	5870.790	9.7686964	1741	10.2313034	17033.482	3	577252.101	9.8604638	2658
58	5873.145	9.7688707	1741	10.2311293	17026.653	2	587256.541	9.8607296	2658
59	5875.499	9.7690448	1739	10.2309552	17019.831	1	597260.983	9.8609954	2656
60	5877.853	9.7692187	1739	10.2307813	17013.016	0	607265.427	9.8612610	
			Dit.	L. Sec.	N. Sec.	54			Dit.

			35	N. Sec.	L. Sec.	D.			
10.1547732	14281.480	60	0	12207.746	10.0866355	885	9.9133645	8191.521	60
10.1545044	14272.642	59	1	12210.233	10.0867240	885	9.9132760	8189.852	59
10.1542356	14263.811	58	2	12212.723	10.0868125	886	9.9131875	8188.182	58
10.1539668	14254.987	57	3	12215.215	10.0869011	887	9.9130989	8186.512	57
10.1536982	14246.171	56	4	12217.708	10.0869898	887	9.9130102	8184.841	56
10.1534295	14237.362	55	5	12220.204	10.0870785	887	9.9129215	8183.169	55
10.1531610	14228.561	54	6	12222.702	10.0871672	887	9.9128328	8181.497	54
10.1528925	14219.766	53	7	12225.202	10.0872560	888	9.9127440	8179.824	53
10.1526240	14210.979	52	8	12227.703	10.0873449	889	9.9126551	8178.150	52
10.1523556	14202.200	51	9	12230.207	10.0874338	890	9.9125662	8176.476	51
10.1520873	14193.427	50	10	12232.713	10.0875228	890	9.9124772	8174.801	50
10.1518190	14184.662	49	11	12235.221	10.0876118	891	9.9123882	8173.125	49
10.1515508	14175.904	48	12	12237.732	10.0877009	891	9.9122991	8171.449	48
10.1512826	14167.153	47	13	12240.244	10.0877901	892	9.9122109	8169.772	47
10.1510145	14158.409	46	14	12242.758	10.0878793	892	9.9121207	8168.094	46
10.1507464	14149.673	45	15	12245.274	10.0879685	893	9.9120315	8166.415	45
10.1504784	14140.943	44	16	12247.793	10.0880578	894	9.9119422	8164.736	44
10.1502104	14132.221	43	17	12250.313	10.0881472	894	9.9118528	8163.056	43
10.1499425	14123.506	42	18	12252.836	10.0882366	894	9.9117634	8161.376	42
10.1496747	14114.799	41	19	12255.361	10.0883261	895	9.9116739	8159.695	41
10.1494069	14106.098	40	20	12257.887	10.0884155	895	9.9115844	8158.013	40
10.1491392	14097.405	39	21	12260.416	10.0885052	896	9.9114948	8156.330	39
10.1488715	14088.718	38	22	12262.947	10.0885949	897	9.9114051	8154.647	38
10.1486039	14080.039	37	23	12265.480	10.0886848	896	9.9113155	8152.963	37
10.1483363	14071.367	36	24	12268.015	10.0887743	898	9.9112257	8151.278	36
10.1480688	14062.702	35	25	12270.552	10.0888641	898	9.9111359	8149.593	35
10.1478013	14054.044	34	26	12273.091	10.0889540	899	9.9110460	8147.906	34
10.1475335	14045.393	33	27	12275.633	10.0890439	899	9.9109561	8146.219	33
10.1472661	14036.749	32	28	12278.176	10.0891339	900	9.9108661	8144.532	32
10.1469992	14028.113	31	29	12280.721	10.0892239	901	9.9107761	8142.844	31
10.1467320	14019.483	30	30	12283.269	10.0893140	901	9.9106860	8141.155	30
10.1464648	14010.860	29	31	12285.819	10.0894041	901	9.9105959	8139.465	29
10.1461977	14002.245	28	32	12288.371	10.0894943	902	9.9105057	8137.775	28
10.1459306	13993.636	27	33	12290.925	10.0895845	904	9.9104155	8136.084	27
10.1456635	13985.034	26	34	12293.481	10.0896749	904	9.9103251	8134.392	26
10.1453966	13976.440	25	35	12296.039	10.0897652	903	9.9102348	8132.701	25
10.1451296	13967.852	24	36	12298.599	10.0898556	904	9.9101444	8131.008	24
10.1448628	13959.272	23	37	12301.161	10.0899461	905	9.9100539	8129.314	23
10.1445959	13950.698	22	38	12303.725	10.0900366	905	9.9099634	8127.620	22
10.1443292	13942.131	21	39	12306.292	10.0901273	906	9.9098728	8125.925	21
10.1440624	13933.571	20	40	12308.861	10.0902179	907	9.9097821	8124.229	20
10.1437958	13925.018	19	41	12311.432	10.0903085	908	9.9096915	8122.532	19
10.1435292	13916.473	18	42	12314.005	10.0903993	908	9.9096007	8120.835	18
10.1432626	13907.934	17	43	12316.580	10.0904901	909	9.9095099	8119.137	17
10.1429961	13899.401	16	44	12319.157	10.0905810	909	9.9094190	8117.439	16
10.1427296	13890.876	15	45	12321.736	10.0906719	910	9.9093281	8115.740	15
10.1424632	13882.358	14	46	12324.317	10.0907629	910	9.9092371	8114.040	14
10.1421969	13873.846	13	47	12326.900	10.0908539	911	9.9091461	8112.335	13
10.1419305	13865.342	12	48	12329.486	10.0909440	911	9.9090550	8110.638	12
10.1416643	13856.844	11	49	12332.074	10.0910361	911	9.9089639	8108.936	11
10.1413981	13848.353	10	50	12334.664	10.0911273	912	9.9088727	8107.233	10
10.1411320	13839.869	9	51	12337.256	10.0912186	913	9.9087814	8105.530	9
10.1408659	13831.392	8	52	12339.850	10.0913099	913	9.9086901	8103.826	8
10.1405998	13822.922	7	53	12342.446	10.0914012	915	9.9085988	8102.121	7
10.1403339	13814.458	6	54	12345.044	10.0914927	915	9.9085073	8100.416	6
10.1400679	13806.001	5	55	12347.645	10.0915841	914	9.9084159	8098.710	5
10.1398020	13797.551	4	56	12350.248	10.0916757	916	9.9083243	8097.003	4
10.1395362	13789.108	3	57	12352.852	10.0917673	916	9.9082327	8095.296	3
10.1392704	13780.672	2	58	12355.459	10.0918589	917	9.9081411	8093.588	2
10.1390046	13772.242	1	59	12358.068	10.0919506	917	9.9080494	8091.879	1
10.1387390	13763.819	0	60	12360.680	10.0920424	918	9.9079576	8090.170	0

36	N. Sin.	L. Sin.	Diff.			36	N. Tan.	L. Tan.	Diff.
0	5877.853	9.7692187	1738	10.2307813	17013.01860	0	7265.426	9.8612610	2657
1	5880.206	9.7693925	1737	10.2306075	17006.20859	1	7269.871	9.8615267	2658
2	5882.558	9.7695662	1736	10.2304338	16999.40758	2	7274.318	9.8617921	2659
3	5884.910	9.7697398	1735	10.2302602	16992.61257	3	7278.767	9.8620578	2660
4	5887.262	9.7699134	1734	10.2300866	16985.82556	4	7283.218	9.8623233	2661
5	5889.613	9.7700868	1733	10.2299132	16979.04455	5	7287.671	9.8625887	2662
6	5891.964	9.7702601	1732	10.2297399	16972.27154	6	7292.126	9.8628541	2663
7	5894.314	9.7704332	1731	10.2295668	16965.50453	7	7296.582	9.8631195	2664
8	5896.663	9.7706063	1730	10.2293937	16958.74352	8	7301.040	9.8633848	2665
9	5899.012	9.7707793	1729	10.2292207	16951.99051	9	7305.501	9.8636500	2666
10	5901.361	9.7709522	1728	10.2290478	16945.24450	10	7309.963	9.8639152	2667
11	5903.709	9.7711249	1727	10.2288751	16938.50449	11	7314.427	9.8641803	2668
12	5906.057	9.7712976	1726	10.2287024	16931.77148	12	7318.894	9.8644454	2669
13	5908.404	9.7714702	1725	10.2285298	16925.04747	13	7323.362	9.8647105	2670
14	5910.750	9.7716426	1724	10.2283574	16918.32646	14	7327.831	9.8649755	2671
15	5913.096	9.7718150	1723	10.2281850	16911.61345	15	7332.303	9.8652404	2672
16	5915.442	9.7719872	1722	10.2280128	16904.90744	16	7336.777	9.8655053	2673
17	5917.787	9.7721593	1721	10.2278407	16898.20843	17	7341.253	9.8657702	2674
18	5920.132	9.7723314	1720	10.2276686	16891.51642	18	7345.730	9.8660350	2675
19	5922.476	9.7725033	1719	10.2274967	16884.83041	19	7350.210	9.8662997	2676
20	5924.819	9.7726751	1718	10.2273249	16878.15140	20	7354.691	9.8665644	2677
21	5927.162	9.7728468	1717	10.2271532	16871.47939	21	7359.174	9.8668291	2678
22	5929.505	9.7730185	1716	10.2269815	16864.81438	22	7363.660	9.8670937	2679
23	5931.847	9.7731900	1715	10.2268100	16858.15537	23	7368.147	9.8673583	2680
24	5934.189	9.7733614	1714	10.2266386	16851.50336	24	7372.636	9.8676228	2681
25	5936.530	9.7735327	1713	10.2264673	16844.85735	25	7377.127	9.8678873	2682
26	5938.871	9.7737039	1712	10.2262961	16838.21834	26	7381.620	9.8681517	2683
27	5941.211	9.7738749	1711	10.2261251	16831.58633	27	7386.115	9.8684160	2684
28	5943.550	9.7740459	1710	10.2259541	16824.96132	28	7390.611	9.8686804	2685
29	5945.889	9.7742168	1709	10.2257832	16818.34231	29	7395.110	9.8689446	2686
30	5948.228	9.7743876	1708	10.2256124	16811.73030	30	7399.611	9.8692089	2687
31	5950.566	9.7745583	1707	10.2254417	16805.12429	31	7404.114	9.8694731	2688
32	5952.903	9.7747288	1706	10.2252712	16798.52528	32	7408.618	9.8697372	2689
33	5955.240	9.7748993	1705	10.2251007	16791.93327	33	7413.124	9.8700013	2690
34	5957.577	9.7750697	1704	10.2249303	16785.34726	34	7417.633	9.8702653	2691
35	5959.913	9.7752399	1703	10.2247601	16778.76825	35	7422.143	9.8705293	2692
36	5962.249	9.7754101	1702	10.2245899	16772.19524	36	7426.655	9.8707933	2693
37	5964.584	9.7755801	1700	10.2244199	16765.62923	37	7431.170	9.8710572	2694
38	5966.918	9.7757501	1699	10.2242499	16759.07022	38	7435.686	9.8713210	2695
39	5969.252	9.7759199	1698	10.2240801	16752.51721	39	7440.204	9.8715848	2696
40	5971.586	9.7760897	1696	10.2239103	16745.97020	40	7444.724	9.8718486	2697
41	5973.919	9.7762593	1695	10.2237407	16739.43019	41	7449.246	9.8721123	2698
42	5976.251	9.7764289	1694	10.2235711	16732.89718	42	7453.770	9.8723760	2699
43	5978.583	9.7765983	1693	10.2234017	16726.37017	43	7458.296	9.8726396	2700
44	5980.915	9.7767676	1692	10.2232324	16719.85016	44	7462.824	9.8729032	2701
45	5983.246	9.7769369	1691	10.2230631	16713.33615	45	7467.354	9.8731668	2702
46	5985.576	9.7771060	1690	10.2228940	16706.82814	46	7471.886	9.8734303	2703
47	5987.907	9.7772750	1689	10.2227250	16700.32813	47	7476.420	9.8736937	2704
48	5990.236	9.7774439	1688	10.2225561	16693.83312	48	7480.956	9.8739571	2705
49	5992.565	9.7776128	1687	10.2223872	16687.34511	49	7485.494	9.8742204	2706
50	5994.893	9.7777815	1686	10.2222185	16680.86410	50	7490.033	9.8744838	2707
51	5997.221	9.7779501	1685	10.2220499	16674.38909	51	7494.575	9.8747470	2708
52	5999.549	9.7781186	1684	10.2218814	16667.92008	52	7499.119	9.8750102	2709
53	6001.876	9.7782870	1683	10.2217130	16661.45807	53	7503.665	9.8752734	2710
54	6004.202	9.7784553	1682	10.2215447	16655.00206	54	7508.212	9.8755365	2711
55	6006.528	9.7786235	1681	10.2213765	16648.55205	55	7512.762	9.8757996	2712
56	6008.853	9.7787916	1680	10.2212084	16642.10904	56	7517.314	9.8760627	2713
57	6011.178	9.7789596	1679	10.2210404	16635.67303	57	7521.867	9.8763257	2714
58	6013.502	9.7791275	1678	10.2208725	16629.24302	58	7526.423	9.8765886	2715
59	6015.827	9.7792953	1677	10.2207047	16622.81901	59	7530.981	9.8768515	2716
60	6018.150	9.7794630	1676	10.2205370	16616.40100	60	7535.540	9.8771144	2717
			Diff.	L. Sec.	N. Sec.				Diff.

		36	N. Sec.	L. Sec.	D.		
10.1387390	13763.819	60	0	12360.680	10.0920424	9.9079576	8090.170
10.1384733	13755.403	59	1	12363.294	10.0921342	9.9078658	8088.460
10.1382077	13746.994	58	2	12365.909	10.0922260	9.9077740	8086.749
10.1379422	13738.591	57	3	12368.526	10.0923180	9.9076820	8085.037
10.1376767	13730.195	56	4	12371.148	10.0924099	9.9075901	8083.325
10.1374113	13721.805	55	5	12373.768	10.0925020	9.9074980	8081.612
10.1371459	13713.423	54	6	12376.393	10.0925941	9.9074059	8079.899
10.1368805	13705.047	53	7	12379.019	10.0926862	9.9073138	8078.185
10.1366152	13696.678	52	8	12381.647	10.0927784	9.9072216	8076.470
10.1363500	13688.315	51	9	12384.278	10.0928707	9.9071293	8074.754
10.1360848	13679.959	50	10	12386.911	10.0929630	9.9070370	8073.038
10.1358197	13671.610	49	11	12389.546	10.0930554	9.9069446	8071.321
10.1355546	13663.267	48	12	12392.183	10.0931478	9.9068522	8069.603
10.1352895	13654.931	47	13	12394.822	10.0932403	9.9067597	8067.885
10.1350245	13646.602	46	14	12397.464	10.0933329	9.9066671	8066.166
10.1347596	13638.279	45	15	12400.108	10.0934255	9.9065745	8064.446
10.1344947	13630.963	44	16	12402.754	10.0935181	9.9064819	8062.726
10.1342298	13622.653	43	17	12405.402	10.0936108	9.9063892	8061.005
10.1339650	13614.350	42	18	12408.052	10.0937036	9.9062966	8059.283
10.1337003	13606.054	41	19	12410.704	10.0937964	9.9062036	8057.560
10.1334356	13597.764	40	20	12413.359	10.0938893	9.9061107	8055.837
10.1331709	13589.481	39	21	12416.016	10.0939823	9.9060177	8054.113
10.1329063	13581.204	38	22	12418.675	10.0940753	9.9059247	8052.389
10.1326417	13572.934	37	23	12421.336	10.0941683	9.9058317	8050.664
10.1323772	13564.670	36	24	12423.999	10.0942614	9.9057386	8048.938
10.1321127	13556.413	35	25	12426.665	10.0943546	9.9056454	8047.211
10.1318483	13548.162	34	26	12429.333	10.0944478	9.9055522	8045.484
10.1315840	13539.918	33	27	12432.003	10.0945411	9.9054589	8043.756
10.1313196	13531.680	32	28	12434.675	10.0946344	9.9053656	8042.028
10.1310554	13523.449	31	29	12437.349	10.0947278	9.9052722	8040.299
10.1307911	13515.224	30	30	12440.026	10.0948213	9.9051787	8038.569
10.1305269	13506.006	29	31	12442.705	10.0949148	9.9050852	8036.838
10.1302628	13497.794	28	32	12445.386	10.0950084	9.9049916	8035.107
10.1299987	13489.589	27	33	12448.069	10.0951020	9.9048980	8033.375
10.1297347	13481.390	26	34	12450.754	10.0951957	9.9048043	8031.642
10.1294707	13473.197	25	35	12453.442	10.0952894	9.9047106	8029.909
10.1292067	13465.011	24	36	12456.131	10.0953832	9.9046168	8028.175
10.1289428	13456.832	23	37	12458.823	10.0954770	9.9045230	8026.440
10.1286790	13448.658	22	38	12461.518	10.0955709	9.9044291	8024.705
10.1284152	13440.492	21	39	12464.214	10.0956649	9.9043351	8022.969
10.1281514	13432.331	20	40	12466.913	10.0957589	9.9042411	8021.232
10.1278877	13424.177	19	41	12469.614	10.0958530	9.9041470	8019.494
10.1276240	13416.029	18	42	12472.317	10.0959471	9.9040529	8017.756
10.1273604	13407.888	17	43	12475.022	10.0960413	9.9039587	8016.017
10.1270968	13399.753	16	44	12477.730	10.0961356	9.9038644	8014.278
10.1268332	13391.624	15	45	12480.440	10.0962299	9.9037701	8012.538
10.1265698	13383.502	14	46	12483.152	10.0963243	9.9036757	8010.797
10.1263063	13375.386	13	47	12485.866	10.0964187	9.9035813	8009.056
10.1260429	13367.272	12	48	12488.583	10.0965131	9.9034866	8007.314
10.1257796	13359.172	11	49	12491.302	10.0966077	9.9033923	8005.571
10.1255162	13351.075	10	50	12494.023	10.0967023	9.9032977	8003.827
10.1252530	13342.984	9	51	12496.746	10.0967969	9.9032031	8002.083
10.1249898	13334.900	8	52	12499.471	10.0968916	9.9031084	8000.338
10.1247266	13326.822	7	53	12502.199	10.0969864	9.9030137	7998.593
10.1244635	13318.749	6	54	12504.929	10.0970812	9.9029184	7996.847
10.1242004	13310.684	5	55	12507.661	10.0971761	9.9028239	7995.100
10.1239373	13302.624	4	56	12510.396	10.0972711	9.9027289	7993.352
10.1236743	13294.571	3	57	12513.133	10.0973661	9.9026339	7991.604
10.1234114	13286.524	2	58	12515.872	10.0974611	9.9025389	7989.855
10.1231485	13278.483	1	59	12518.613	10.0975562	9.9024438	7988.105
10.1228856	13270.448	0	60	12521.357	10.0976514	9.9023486	7986.355
L. Tan.	N. Tan.	53			D. L. Sin.	N. Sin.	53

37	N. Sin.	L. Sin.	Dif.			37	N. Tan.	L. Tan.	Dif.
0	6018.150	9.7794630	1676	10.2205370	16616.401	60	07531.540	9.8771144	2628
1	6020.473	9.7796306	1675	10.2203694	16609.990	59	17540.102	9.8773772	2628
2	6022.795	9.7797981	1674	10.2202019	16603.585	58	27544.666	9.8776400	2627
3	6025.117	9.7799655	1673	10.2200345	16597.187	57	37549.232	9.8779027	2627
4	6027.439	9.7801328	1672	10.2198672	16590.795	56	47553.799	9.8781654	2627
5	6029.760	9.7803000	1671	10.2197000	16584.409	55	57558.369	9.8784281	2626
6	6032.080	9.7804671	1670	10.2195329	16578.020	54	67562.941	9.8786907	2626
7	6034.400	9.7806341	1669	10.2193659	16571.637	53	77567.514	9.8789533	2625
8	6036.719	9.7808010	1667	10.2191990	16565.250	52	87572.090	9.8792158	2624
9	6039.038	9.7809677	1667	10.2190323	16558.869	51	97576.668	9.8794782	2624
10	6041.356	9.7811344	1666	10.2188656	16552.485	50	107581.248	9.8797407	2623
11	6043.674	9.7813010	1665	10.2186990	16546.107	49	117585.819	9.8800031	2623
12	6045.991	9.7814675	1664	10.2185325	16539.725	48	127590.413	9.8802654	2622
13	6048.308	9.7816339	1663	10.2183661	16533.350	47	137594.999	9.8805277	2621
14	6050.624	9.7818002	1662	10.2181998	16527.221	46	147599.587	9.8807900	2621
15	6052.940	9.7819664	1660	10.2180336	16520.898	45	157604.177	9.8810522	2621
16	6055.255	9.7821324	1660	10.2178676	16514.581	44	167608.769	9.8813144	2620
17	6057.570	9.7822984	1659	10.2177016	16508.270	43	177613.363	9.8815765	2620
18	6059.884	9.7824643	1658	10.2175357	16501.966	42	187617.957	9.8818386	2619
19	6062.198	9.7826301	1657	10.2173699	16495.668	41	197622.557	9.8821007	2619
20	6064.511	9.7827958	1656	10.2172042	16489.376	40	207627.157	9.8823627	2619
21	6066.823	9.7829614	1654	10.2170386	16483.090	39	217631.759	9.8826246	2618
22	6069.135	9.7831268	1654	10.2168731	16476.811	38	227636.363	9.8828866	2618
23	6071.447	9.7832921	1653	10.2167078	16470.537	37	237640.969	9.8831484	2618
24	6073.758	9.7834575	1652	10.2165425	16464.270	36	247645.577	9.8834103	2618
25	6076.069	9.7836227	1651	10.2163773	16458.009	35	257650.188	9.8836721	2617
26	6078.379	9.7837878	1650	10.2162122	16451.754	34	267654.800	9.8839338	2617
27	6080.689	9.7839528	1649	10.2160472	16445.506	33	277659.414	9.8841956	2616
28	6082.998	9.7841177	1647	10.2158823	16439.263	32	287664.031	9.8844572	2617
29	6085.306	9.7842824	1647	10.2157176	16433.027	31	297668.649	9.8847189	2616
30	6087.614	9.7844471	1646	10.2155529	16426.796	30	307673.270	9.8849805	2615
31	6089.922	9.7846117	1645	10.2153883	16420.572	29	317677.893	9.8852420	2615
32	6092.229	9.7847762	1644	10.2152238	16414.354	28	327682.517	9.8855035	2615
33	6094.535	9.7849406	1643	10.2150594	16408.142	27	337687.144	9.8857650	2614
34	6096.841	9.7851049	1642	10.2148951	16401.936	26	347691.773	9.8860264	2614
35	6099.147	9.7852691	1641	10.2147309	16395.736	25	357696.404	9.8862878	2614
36	6101.452	9.7854332	1640	10.2145668	16389.542	24	367701.037	9.8865492	2613
37	6103.756	9.7855972	1639	10.2144028	16383.355	23	377705.671	9.8868105	2613
38	6106.060	9.7857611	1638	10.2142389	16377.173	22	387710.309	9.8870718	2612
39	6108.363	9.7859249	1637	10.2140751	16370.997	21	397714.948	9.8873330	2612
40	6110.666	9.7860886	1636	10.2139114	16364.828	20	407719.589	9.8875942	2612
41	6112.968	9.7862522	1635	10.2137478	16358.664	19	417724.233	9.8878554	2611
42	6115.270	9.7864157	1634	10.2135843	16352.507	18	427728.879	9.8881165	2610
43	6117.572	9.7865791	1633	10.2134209	16346.355	17	437733.526	9.8883775	2610
44	6119.873	9.7867424	1632	10.2132576	16340.210	16	447738.175	9.8886386	2609
45	6122.173	9.7869056	1631	10.2130944	16334.070	15	457742.827	9.8888996	2609
46	6124.473	9.7870687	1630	10.2129313	16327.937	14	467747.481	9.8891605	2609
47	6126.772	9.7872317	1629	10.2127683	16321.809	13	477752.137	9.8894214	2609
48	6129.071	9.7873946	1628	10.2126054	16315.688	12	487756.795	9.8896823	2608
49	6131.369	9.7875574	1628	10.2124426	16309.572	11	497761.455	9.8899432	2608
50	6133.666	9.7877202	1626	10.2122798	16303.462	10	507766.117	9.8902040	2607
51	6135.963	9.7878828	1625	10.2121172	16297.359	9	517770.782	9.8904647	2607
52	6138.260	9.7880453	1624	10.2119547	16291.261	8	527775.448	9.8907254	2607
53	6140.556	9.7882077	1624	10.2117923	16285.169	7	537780.117	9.8909861	2607
54	6142.852	9.7883701	1622	10.2116299	16279.083	6	547784.788	9.8912468	2606
55	6145.147	9.7885323	1621	10.2114677	16273.003	5	557789.460	9.8915074	2605
56	6147.442	9.7886944	1621	10.2113056	16266.929	4	567794.135	9.8917679	2605
57	6149.737	9.7888565	1619	10.2111435	16260.861	3	577798.812	9.8920285	2604
58	6152.032	9.7890184	1618	10.2109816	16254.799	2	587803.492	9.8922890	2603
59	6154.322	9.7891802	1618	10.2108198	16248.743	1	597808.173	9.8925494	2603
60	6156.615	9.7893420	1618	10.2106580	16242.692	0	607812.856	9.8928098	2602
			Dif.	L. Sec.	N. Sec.				Dif.

		37	N. Sec.	L. Sec.	D		
10.1218856	13270.448	60	12521.357	10.0976514	952	9.9023486	7986.355
10.1216228	13262.420	59	12524.102	10.0977466	953	9.9022534	7984.604
10.1213600	13254.377	58	12526.350	10.0978419	954	9.9021581	7982.852
10.1210972	13246.381	57	12529.601	10.0979372	955	9.9020628	7981.100
10.1218346	13238.371	56	12532.353	10.0980326	956	9.9019674	7979.347
10.1215719	13230.368	55	12535.108	10.0981281	957	9.9018719	7977.593
10.1213092	13222.370	54	12537.865	10.0982236	958	9.9017764	7975.839
10.1210467	13214.379	53	12540.625	10.0983192	959	9.9016808	7974.084
10.1210784	13206.393	52	12543.387	10.0984148	960	9.9015852	7972.328
10.1205218	13198.414	51	12546.151	10.0985104	961	9.9014895	7970.572
10.1202593	13190.441	50	12548.917	10.0986062	962	9.9013938	7968.815
10.1199969	13182.474	49	12551.685	10.0987020	963	9.9012980	7967.057
10.1197346	13174.512	48	12554.456	10.0987979	964	9.9012021	7965.299
10.1194723	13166.550	47	12557.229	10.0988938	965	9.9011062	7963.540
10.1192100	13158.590	46	12560.005	10.0989898	966	9.9010102	7961.780
10.1189478	13150.668	45	12562.782	10.0990858	967	9.9009142	7960.020
10.1186856	13142.731	44	12565.562	10.0991819	968	9.9008181	7958.259
10.1184235	13134.801	43	12568.345	10.0992781	969	9.9007219	7956.497
10.1181614	13126.876	42	12571.129	10.0993743	970	9.9006257	7954.735
10.1178993	13118.958	41	12573.916	10.0994706	971	9.9005294	7952.972
10.1176373	13111.046	40	12576.704	10.0995669	972	9.9004331	7951.208
10.1173754	13103.140	39	12579.497	10.0996633	973	9.9003367	7949.443
10.1171134	13095.239	38	12582.291	10.0997597	974	9.9002403	7947.678
10.1168516	13087.345	37	12585.087	10.0998561	975	9.9001438	7945.912
10.1165897	13079.457	36	12587.885	10.0999525	976	9.9000472	7944.145
10.1163279	13071.575	35	12590.686	10.1000489	977	9.8999506	7942.379
10.1160662	13063.699	34	12593.489	10.1001461	978	9.8998539	7940.611
10.1158044	13055.828	33	12596.294	10.1002432	979	9.8997572	7938.843
10.1155428	13047.964	32	12599.102	10.1003406	980	9.8996604	7937.074
10.1152811	13040.106	31	12601.912	10.1004384	981	9.8995636	7935.304
10.1150195	13032.254	30	12604.724	10.1005363	982	9.8994667	7933.532
10.1147580	13024.407	29	12607.539	10.1006343	983	9.8993697	7931.762
10.1144965	13016.567	28	12610.356	10.1007327	984	9.8992727	7929.990
10.1142350	13008.732	27	12613.175	10.1008314	985	9.8991756	7928.218
10.1139736	13000.900	26	12615.997	10.1009306	986	9.8990784	7926.446
10.1137122	12993.081	25	12618.820	10.1010298	987	9.8989812	7924.671
10.1134508	12985.265	24	12621.646	10.1011290	988	9.8988840	7922.896
10.1131895	12977.454	23	12624.475	10.1012283	989	9.8987867	7921.121
10.1129282	12969.649	22	12627.306	10.1013277	990	9.8986893	7919.345
10.1126670	12961.850	21	12630.140	10.1014271	991	9.8985919	7917.569
10.1124058	12954.057	20	12632.975	10.1015265	992	9.8984944	7915.792
10.1121446	12946.269	19	12635.813	10.1016260	993	9.8983968	7914.014
10.1118835	12938.488	18	12638.653	10.1017254	994	9.8982992	7912.235
10.1116225	12930.712	17	12641.496	10.1018249	995	9.8982015	7910.456
10.1113614	12922.943	16	12644.341	10.1019243	996	9.8981038	7908.676
10.1111004	12915.179	15	12647.188	10.1020238	997	9.8980060	7906.896
10.1108395	12907.421	14	12650.038	10.1021232	998	9.8979082	7905.115
10.1105786	12899.669	13	12652.890	10.1022227	999	9.8978103	7903.333
10.1103177	12891.922	12	12655.745	10.1023221	1000	9.8977122	7901.550
10.1100568	12884.182	11	12658.601	10.1024215	981	9.8976143	7899.767
10.1097960	12876.447	10	12661.460	10.1025209	982	9.8975162	7897.982
10.1095353	12868.718	9	12664.322	10.1026203	983	9.8974181	7896.193
10.1092746	12860.995	8	12667.186	10.1027197	984	9.8973200	7894.403
10.1090139	12853.277	7	12670.052	10.1028191	985	9.8972219	7892.612
10.1087532	12845.566	6	12672.921	10.1029185	986	9.8971238	7890.821
10.1084925	12837.860	5	12675.792	10.1030179	987	9.8970257	7889.029
10.1082318	12830.160	4	12678.665	10.1031173	988	9.8969276	7887.236
10.1079711	12822.466	3	12681.541	10.1032167	989	9.8968295	7885.443
10.1077104	12814.776	2	12684.419	10.1033161	990	9.8967314	7883.650
10.1074506	12807.093	1	12687.299	10.1034155	991	9.8966333	7881.857
10.1071902	12799.416	0	12690.182	10.1035149	992	9.8965352	7880.064

38	N. Sin.	L. Sin.	Dif.			39	N. Sin.	L. Sin.	Dif.
0	6155.615	9.7893410	161	10.2105580	16242.692	60	0.7812.856	9.8928098	2604
1	6158.907	9.7895036	161	10.2104964	16236.648	59	1.7817.542	9.8930702	2604
2	6161.198	9.7896662	161	10.2103348	16230.609	58	2.7822.229	9.8933306	2603
3	6163.489	9.7898286	161	10.2101734	16224.576	57	3.7826.919	9.8935909	2603
4	6165.779	9.7899880	161	10.2100120	16218.549	56	4.7831.611	9.8938511	2603
5	6168.069	9.7901495	161	10.2098507	16212.528	55	5.7836.305	9.8941114	2601
6	6170.359	9.7903109	161	10.2096896	16206.512	54	6.7841.002	9.8943715	2601
7	6172.648	9.7904715	161	10.2095285	16200.504	53	7.7845.700	9.8946317	2601
8	6174.936	9.7906324	160	10.2093675	16194.500	52	8.7850.400	9.8948918	2601
9	6177.224	9.7907932	160	10.2092067	16188.502	51	9.7855.103	9.8951519	2600
10	6179.511	9.7909541	160	10.2090459	16182.510	50	10.7859.808	9.8954119	2600
11	6181.798	9.7911148	160	10.2088852	16176.524	49	11.7864.515	9.8956719	2600
12	6184.084	9.7912754	160	10.2087246	16170.544	48	12.7869.224	9.8959319	2599
13	6186.370	9.7914359	160	10.2085641	16164.569	47	13.7873.935	9.8961918	2599
14	6188.655	9.7915962	160	10.2084037	16158.600	46	14.7878.649	9.8964517	2599
15	6190.940	9.7917566	160	10.2082434	16152.637	45	15.7883.364	9.8967116	2598
16	6193.224	9.7919168	160	10.2080832	16146.680	44	16.7888.082	9.8969714	2598
17	6195.507	9.7920769	160	10.2079231	16140.728	43	17.7892.802	9.8972312	2598
18	6197.790	9.7922369	160	10.2077631	16134.783	42	18.7897.524	9.8974910	2597
19	6200.073	9.7923968	159	10.2076032	16128.843	41	19.7902.248	9.8977507	2597
20	6202.355	9.7925566	159	10.2074434	16122.908	40	20.7906.975	9.8980104	2596
21	6204.636	9.7927162	159	10.2072837	16116.980	39	21.7911.703	9.8982700	2596
22	6206.917	9.7928760	159	10.2071240	16111.057	38	22.7916.434	9.8985296	2595
23	6209.198	9.7930355	159	10.2069645	16105.140	37	23.7921.167	9.8987892	2595
24	6211.478	9.7931949	159	10.2068051	16099.228	36	24.7925.902	9.8990487	2595
25	6213.757	9.7933543	159	10.2066457	16093.323	35	25.7930.640	9.8993082	2594
26	6216.036	9.7935135	159	10.2064865	16087.423	34	26.7935.379	9.8995677	2594
27	6218.314	9.7936727	159	10.2063275	16081.528	33	27.7940.121	9.8998271	2594
28	6220.592	9.7938317	159	10.2061683	16075.640	32	28.7944.865	9.9000865	2594
29	6222.869	9.7939907	159	10.2060093	16069.757	31	29.7949.611	9.9003459	2593
30	6225.146	9.7941496	158	10.2058504	16063.879	30	30.7954.359	9.9006052	2593
31	6227.422	9.7943083	158	10.2056917	16057.998	29	31.7959.110	9.9008645	2592
32	6229.698	9.7944670	158	10.2055330	16052.122	28	32.7963.862	9.9011237	2592
33	6231.973	9.7946256	158	10.2053744	16046.251	27	33.7968.617	9.9013828	2592
34	6234.248	9.7947841	158	10.2052159	16040.386	26	34.7973.374	9.9016419	2591
35	6236.522	9.7949425	158	10.2050575	16034.527	25	35.7978.134	9.9019013	2591
36	6238.796	9.7951008	158	10.2048992	16028.674	24	36.7982.895	9.9021604	2591
37	6241.069	9.7952590	158	10.2047410	16022.826	23	37.7987.659	9.9024195	2591
38	6243.342	9.7954171	158	10.2045829	16016.984	22	38.7992.425	9.9026786	2590
39	6245.614	9.7955751	157	10.2044249	16011.137	21	39.7997.193	9.9029376	2590
40	6247.885	9.7957330	157	10.2042670	16005.296	20	40.8001.963	9.9031966	2589
41	6250.156	9.7958909	157	10.2041091	15999.460	19	41.8006.736	9.9034555	2589
42	6252.426	9.7960486	157	10.2039514	15993.629	18	42.8011.511	9.9037144	2589
43	6254.696	9.7962062	157	10.2037938	15987.786	17	43.8016.288	9.9039733	2588
44	6256.966	9.7963638	157	10.2036362	15981.941	16	44.8021.067	9.9042322	2588
45	6259.235	9.7965212	157	10.2034788	15976.094	15	45.8025.848	9.9044910	2587
46	6261.503	9.7966786	157	10.2033214	15970.266	14	46.8030.632	9.9047497	2587
47	6263.771	9.7968359	157	10.2031641	15964.424	13	47.8035.418	9.9050085	2587
48	6266.038	9.7969930	157	10.2030070	15958.597	12	48.8040.206	9.9052672	2587
49	6268.305	9.7971501	157	10.2028499	15952.776	11	49.8044.997	9.9055259	2586
50	6270.571	9.7973071	156	10.2026929	15946.951	10	50.8049.790	9.9057845	2586
51	6272.837	9.7974640	156	10.2025360	15941.121	9	51.8054.585	9.9060431	2586
52	6275.102	9.7976208	156	10.2023792	15935.296	8	52.8059.382	9.9063017	2586
53	6277.366	9.7977775	156	10.2022225	15929.477	7	53.8064.181	9.9065603	2585
54	6279.630	9.7979341	156	10.2020659	15923.654	6	54.8068.982	9.9068188	2585
55	6281.894	9.7980906	156	10.2019094	15917.826	5	55.8073.787	9.9070773	2584
56	6284.157	9.7982470	156	10.2017530	15911.993	4	56.8078.593	9.9073357	2584
57	6286.420	9.7984034	156	10.2015966	15906.166	3	57.8083.401	9.9075941	2584
58	6288.682	9.7985596	156	10.2014404	15900.344	2	58.8088.212	9.9078525	2584
59	6290.943	9.7987158	156	10.2012842	15894.528	1	59.8093.025	9.9081109	2583
60	6293.204	9.7988718	156	10.2011282	15888.717	0	60.8097.840	9.9083692	2583
			Dif.	L. Sec.	N. Sec.	51			Dif.

30 N. Sec.			L. Sec.			D. I.		
10.1071902	12799.416	60	0.12690.182	10.1034679	987	9.8965321	7880.107	60
10.1069298	12791.745	59	1.12693.067	10.1035666	988	9.8964334	7878.216	59
10.1066694	12784.079	58	2.12695.955	10.1036654	988	9.8963346	7876.324	58
10.1064091	12776.419	57	3.12698.845	10.1037642	989	9.8962358	7874.432	57
10.1061489	12768.764	56	4.12701.737	10.1038631	990	9.8961369	7872.539	56
10.1058886	12761.116	55	5.12704.632	10.1039621	990	9.8960379	7871.648	55
10.1056285	12753.473	54	6.12707.529	10.1040611	991	9.8959389	7869.750	54
10.1053683	12745.836	53	7.12710.429	10.1041602	991	9.8958398	7867.855	53
10.1051082	12738.204	52	8.12713.331	10.1042594	992	9.8957406	7865.959	52
10.1048481	12730.578	51	9.12716.235	10.1043586	992	9.8956414	7864.062	51
10.1045881	12722.957	50	10.12719.142	10.1044578	994	9.8955422	7862.165	50
10.1043281	12715.342	49	11.12722.051	10.1045572	994	9.8954429	7860.267	49
10.1040681	12707.733	48	12.12724.963	10.1046565	995	9.8953435	7858.369	48
10.1038082	12700.130	47	13.12727.877	10.1047560	995	9.8952440	7856.470	47
10.1035483	12692.532	46	14.12730.794	10.1048555	995	9.8951445	7854.570	46
10.1032884	12684.939	45	15.12733.712	10.1049550	997	9.8950450	7852.670	45
10.1030286	12677.353	44	16.12736.634	10.1050547	997	9.8949457	7850.768	44
10.1027688	12669.772	43	17.12739.557	10.1051543	998	9.8948465	7848.866	43
10.1025090	12662.196	42	18.12742.484	10.1052541	998	9.8947475	7847.964	42
10.1022493	12654.626	41	19.12745.412	10.1053539	998	9.8946481	7846.061	41
10.1019896	12647.062	40	20.12748.343	10.1054537	1000	9.8945486	7844.157	40
10.1017300	12639.503	39	21.12751.276	10.1055537	999	9.8944493	7842.251	39
10.1014704	12631.950	38	22.12754.212	10.1056536	1001	9.8943494	7840.343	38
10.1012108	12624.402	37	23.12757.150	10.1057537	1001	9.8942495	7838.437	37
10.1009513	12616.860	36	24.12760.091	10.1058538	1001	9.8941492	7836.531	36
10.1006918	12609.323	35	25.12763.034	10.1059539	1001	9.8940491	7834.628	35
10.1004323	12601.792	34	26.12765.980	10.1060540	1002	9.8939495	7832.724	34
10.1001729	12594.267	33	27.12768.928	10.1061544	1004	9.8938498	7830.819	33
10.0999135	12586.747	32	28.12771.878	10.1062548	1004	9.8937492	7828.912	32
10.0996541	12579.231	31	29.12774.831	10.1063552	1004	9.8936494	7827.004	31
10.0993948	12571.723	30	30.12777.787	10.1064556	1005	9.8935499	7825.098	30
10.0991355	12564.219	29	31.12780.745	10.1065561	1005	9.8934499	7823.191	29
10.0988763	12556.721	28	32.12783.705	10.1066567	1007	9.8933493	7821.285	28
10.0986170	12549.229	27	33.12786.667	10.1067574	1007	9.8932496	7819.378	27
10.0983578	12541.742	26	34.12789.632	10.1068581	1007	9.8931499	7817.472	26
10.0980987	12534.260	25	35.12792.600	10.1069588	1008	9.8930492	7815.566	25
10.0978396	12526.784	24	36.12795.570	10.1070596	1009	9.8929494	7813.660	24
10.0975805	12519.313	23	37.12798.543	10.1071605	1010	9.8928495	7811.754	23
10.0973214	12511.848	22	38.12801.518	10.1072615	1010	9.8927495	7809.848	22
10.0970624	12504.388	21	39.12804.495	10.1073625	1010	9.8926495	7807.942	21
10.0968034	12496.933	20	40.12807.475	10.1074635	1011	9.8925495	7806.036	20
10.0965445	12489.484	19	41.12810.457	10.1075646	1011	9.8924495	7804.130	19
10.0962856	12482.040	18	42.12813.442	10.1076658	1012	9.8923494	7802.224	18
10.0960267	12474.602	17	43.12816.430	10.1077671	1013	9.8922493	7800.318	17
10.0957679	12467.169	16	44.12819.420	10.1078684	1013	9.8921493	7798.412	16
10.0955090	12459.742	15	45.12822.412	10.1079697	1014	9.8920493	7796.506	15
10.0952503	12452.320	14	46.12825.407	10.1080713	1014	9.8919492	7794.600	14
10.0949915	12444.903	13	47.12828.404	10.1081726	1015	9.8918492	7792.694	13
10.0947328	12437.492	12	48.12831.404	10.1082742	1016	9.8917491	7790.788	12
10.0944741	12430.086	11	49.12834.406	10.1083758	1016	9.8916491	7788.882	11
10.0942155	12422.685	10	50.12837.411	10.1084774	1018	9.8915491	7786.976	10
10.0939569	12415.290	9	51.12840.418	10.1085792	1017	9.8914490	7785.070	9
10.0936983	12407.900	8	52.12843.428	10.1086809	1019	9.8913491	7783.164	8
10.0934397	12400.515	7	53.12846.440	10.1087828	1019	9.8912492	7781.258	7
10.0931812	12393.136	6	54.12849.455	10.1088847	1020	9.8911493	7779.352	6
10.0929227	12385.762	5	55.12852.472	10.1089867	1020	9.8910493	7777.446	5
10.0926643	12378.393	4	56.12855.492	10.1090887	1021	9.8909493	7775.540	4
10.0924059	12371.030	3	57.12858.514	10.1091908	1021	9.8908492	7773.634	3
10.0921475	12363.672	2	58.12861.539	10.1092929	1022	9.8907491	7771.728	2
10.0918891	12356.319	1	59.12864.566	10.1093951	1023	9.8906490	7769.822	1
10.0916308	12348.972	0	60.12867.596	10.1094974	1023	9.8905490	7767.916	0

L. Tan. N. Tan. 191

Di L. Sin. N. Sin.

39	N. Sin.	L. Sin.	Dit.			39	N. Tan.	L. Tan.	Dit.
1	6293.204	9.7983718	1560	10.2011281	15890.157 60	1	08097.840	9.9083692	2583
2	6295.464	9.7990278	1558	10.2009722	15884.452 59	2	18102.658	9.9086275	2582
3	6297.724	9.7991836	1558	10.2008164	15878.752 58	3	28107.478	9.9088858	2581
4	6299.983	9.7993394	1557	10.2006606	15873.058 57	4	38112.300	9.9091440	2580
5	6302.242	9.7994951	1556	10.2005049	15867.369 56	5	48117.124	9.9094022	2581
6	6304.500	9.7996507	1555	10.2003493	15861.685 55	6	58121.951	9.9096603	2582
7	6306.758	9.7998062	1554	10.2001938	15856.007 54	7	68126.780	9.9099185	2581
8	6309.015	9.7999616	1553	10.2000384	15850.334 53	8	78131.611	9.9101766	2581
9	6311.272	9.8001169	1552	10.1998831	15844.667 52	9	88136.444	9.9104347	2580
10	6313.528	9.8002721	1551	10.1997279	15839.005 51	10	98141.280	9.9106927	2580
11	6315.784	9.8004272	1551	10.1995728	15833.348 50	11	108146.118	9.9109507	2580
12	6318.039	9.8005823	1550	10.1994177	15827.697 49	12	118150.958	9.9112087	2579
13	6320.293	9.8007372	1549	10.1992628	15822.051 48	13	128155.801	9.9114666	2579
14	6322.547	9.8008921	1549	10.1991079	15816.411 47	14	138160.646	9.9117245	2578
15	6324.800	9.8010468	1547	10.1989532	15810.776 46	15	148165.493	9.9119824	2578
16	6327.053	9.8012015	1546	10.1987985	15805.146 45	16	158170.343	9.9122403	2578
17	6329.305	9.8013561	1545	10.1986439	15799.521 44	17	168175.195	9.9124981	2578
18	6331.557	9.8015106	1545	10.1984894	15793.902 43	18	178180.049	9.9127559	2578
19	6333.808	9.8016649	1543	10.1983351	15788.289 42	19	188184.905	9.9130137	2577
20	6336.059	9.8018192	1543	10.1981808	15782.680 41	20	198189.764	9.9132714	2577
21	6338.309	9.8019735	1541	10.1980265	15777.077 40	21	208194.625	9.9135291	2577
22	6340.559	9.8021276	1540	10.1978724	15771.479 39	22	218199.488	9.9137868	2576
23	6342.808	9.8022816	1539	10.1977184	15765.887 38	23	228204.354	9.9140444	2576
24	6345.057	9.8024355	1539	10.1975645	15760.300 37	24	238209.222	9.9143020	2576
25	6347.305	9.8025894	1537	10.1974106	15754.718 36	25	248214.093	9.9145596	2575
26	6349.553	9.8027431	1537	10.1972569	15749.141 35	26	258218.965	9.9148171	2575
27	6351.800	9.8028968	1536	10.1971032	15743.570 34	27	268223.840	9.9150746	2575
28	6354.046	9.8030505	1534	10.1969496	15738.004 33	28	278228.718	9.9153322	2574
29	6356.292	9.8032042	1534	10.1967961	15732.443 32	29	288233.597	9.9155896	2574
30	6358.537	9.8033579	1533	10.1966428	15726.887 31	30	298238.479	9.9158471	2574
31	6360.782	9.8035115	1533	10.1964895	15721.337 30	31	308243.364	9.9161045	2573
32	6363.026	9.8036652	1532	10.1963363	15715.792 29	32	318248.251	9.9163618	2573
33	6365.270	9.8038189	1531	10.1961832	15710.252 28	33	328253.140	9.9166192	2573
34	6367.513	9.8039726	1529	10.1960301	15704.717 27	34	338258.031	9.9168766	2573
35	6369.756	9.8041263	1529	10.1958772	15699.188 26	35	348262.925	9.9171338	2572
36	6372.000	9.8042800	1527	10.1957243	15693.664 25	36	358267.821	9.9173911	2572
37	6374.244	9.8044337	1527	10.1955716	15688.145 24	37	368272.719	9.9176482	2572
38	6376.488	9.8045874	1525	10.1954189	15682.631 23	38	378277.620	9.9179055	2572
39	6378.731	9.8047411	1525	10.1952664	15677.123 22	39	388282.523	9.9181627	2571
40	6380.975	9.8048948	1524	10.1951139	15671.619 21	40	398287.429	9.9184198	2571
41	6383.219	9.8050485	1524	10.1949615	15666.121 20	41	408292.337	9.9186769	2571
42	6385.463	9.8052022	1522	10.1948092	15660.628 19	42	418297.247	9.9189340	2571
43	6387.707	9.8053559	1521	10.1946570	15655.141 18	43	428302.160	9.9191911	2570
44	6389.951	9.8055096	1521	10.1945049	15649.658 17	44	438307.075	9.9194481	2570
45	6392.195	9.8056633	1519	10.1943528	15644.181 16	45	448311.992	9.9197052	2570
46	6394.439	9.8058170	1519	10.1942009	15638.708 15	46	458316.912	9.9199621	2570
47	6396.683	9.8059707	1517	10.1940490	15633.241 14	47	468321.834	9.9202191	2569
48	6398.927	9.8061244	1517	10.1938973	15627.779 13	48	478326.759	9.9204760	2569
49	6401.171	9.8062781	1516	10.1937456	15622.322 12	49	488331.686	9.9207329	2569
50	6403.415	9.8064318	1515	10.1935940	15616.870 11	50	498336.615	9.9209898	2568
51	6405.659	9.8065855	1515	10.1934425	15611.424 10	51	508341.547	9.9212466	2568
52	6407.903	9.8067392	1513	10.1932911	15605.982 9	52	518346.481	9.9215034	2568
53	6410.147	9.8068929	1512	10.1931398	15600.546 8	53	528351.418	9.9217602	2568
54	6412.391	9.8070466	1512	10.1929886	15595.115 7	54	538356.357	9.9220170	2567
55	6414.635	9.8072003	1510	10.1928374	15589.689 6	55	548361.298	9.9222737	2567
56	6416.879	9.8073540	1510	10.1926864	15584.267 5	56	558366.242	9.9225304	2566
57	6419.123	9.8075077	1508	10.1925354	15578.851 4	57	568371.188	9.9227871	2566
58	6421.367	9.8076614	1508	10.1923846	15573.441 3	58	578376.136	9.9230437	2565
59	6423.611	9.8078151	1507	10.1922338	15568.035 2	59	588381.087	9.9233004	2565
60	6425.855	9.8079688	1506	10.1920831	15562.634 1	60	598386.040	9.9235570	2565
	6428.100	9.8081225	1506	10.1919324	15557.238 0		608390.996	9.9238135	

			39	N. Sec.	L. Sec.	D. 11			
10.0916308	12348.972	60	0	12867.596	10.1094974	1023	9.8905026	7771.460	60
10.0913725	12341.629	59	1	12870.628	10.1095997	1024	9.8904003	7769.629	59
10.0911142	12334.292	58	2	12873.663	10.1097021	1025	9.8902979	7767.797	58
10.0908560	12326.961	57	3	12876.700	10.1098046	1026	9.8901954	7765.965	57
10.0905978	12319.634	56	4	12879.740	10.1099071	1027	9.8900929	7764.132	56
10.0903397	12312.313	55	5	12882.782	10.1100097	1028	9.8899903	7762.298	55
10.0900815	12304.997	54	6	12885.827	10.1101123	1029	9.8898877	7760.464	54
10.0898234	12297.687	53	7	12888.875	10.1102150	1030	9.8897850	7758.629	53
10.0895653	12290.381	52	8	12891.925	10.1103178	1031	9.8896822	7756.794	52
10.0893073	12283.081	51	9	12894.977	10.1104206	1032	9.8895794	7754.958	51
10.0890493	12275.786	50	10	12898.032	10.1105235	1033	9.8894765	7753.121	50
10.0887913	12268.496	49	11	12901.090	10.1106264	1034	9.8893736	7751.283	49
10.0885334	12261.211	48	12	12904.150	10.1107294	1035	9.8892706	7749.445	48
10.0882755	12253.932	47	13	12907.213	10.1108325	1036	9.8891675	7747.606	47
10.0880176	12246.658	46	14	12910.278	10.1109356	1037	9.8890644	7745.767	46
10.0877597	12239.389	45	15	12913.346	10.1110388	1038	9.8889612	7743.927	45
10.0875019	12232.125	44	16	12916.416	10.1111420	1039	9.8888580	7742.086	44
10.0872441	12224.866	43	17	12919.489	10.1112453	1040	9.8887547	7740.244	43
10.0869863	12217.613	42	18	12922.564	10.1113487	1041	9.8886513	7738.402	42
10.0867286	12210.364	41	19	12925.642	10.1114521	1042	9.8885479	7736.559	41
10.0864709	12203.121	40	20	12928.723	10.1115556	1043	9.8884444	7734.716	40
10.0862132	12195.883	39	21	12931.806	10.1116592	1044	9.8883408	7732.872	39
10.0859556	12188.650	38	22	12934.892	10.1117628	1045	9.8882372	7731.027	38
10.0856980	12181.422	37	23	12937.980	10.1118665	1046	9.8881335	7729.182	37
10.0854404	12174.199	36	24	12941.071	10.1119702	1047	9.8880298	7727.336	36
10.0851829	12166.982	35	25	12944.164	10.1120740	1048	9.8879260	7725.489	35
10.0849253	12159.769	34	26	12947.260	10.1121779	1049	9.8878221	7723.642	34
10.0846678	12152.562	33	27	12950.359	10.1122818	1050	9.8877182	7721.794	33
10.0844104	12145.359	32	28	12953.460	10.1123858	1051	9.8876142	7719.945	32
10.0841529	12138.162	31	29	12956.564	10.1124899	1052	9.8875102	7718.096	31
10.0838955	12130.970	30	30	12959.670	10.1125939	1053	9.8874061	7716.246	30
10.0836382	12123.783	29	31	12962.779	10.1126981	1054	9.8873019	7714.395	29
10.0833808	12116.601	28	32	12965.890	10.1128023	1055	9.8871977	7712.544	28
10.0831235	12109.424	27	33	12969.004	10.1129066	1056	9.8870934	7710.692	27
10.0828662	12102.252	26	34	12972.121	10.1130110	1057	9.8869890	7708.839	26
10.0826089	12095.085	25	35	12975.240	10.1131154	1058	9.8868846	7706.985	25
10.0823517	12087.913	24	36	12978.362	10.1132199	1059	9.8867801	7705.132	24
10.0820945	12080.747	23	37	12981.487	10.1133244	1060	9.8866756	7703.278	23
10.0818373	12073.581	22	38	12984.614	10.1134290	1061	9.8865710	7701.423	22
10.0815802	12066.468	21	39	12987.744	10.1135337	1062	9.8864663	7699.567	21
10.0813231	12059.327	20	40	12990.876	10.1136384	1063	9.8863616	7697.710	20
10.0810660	12052.190	19	41	12994.011	10.1137432	1064	9.8862568	7695.853	19
10.0808089	12045.058	18	42	12997.148	10.1138481	1065	9.8861519	7693.995	18
10.0805519	12037.931	17	43	13000.288	10.1139530	1066	9.8860470	7692.137	17
10.0802949	12030.810	16	44	13003.431	10.1140580	1067	9.8859420	7690.278	16
10.0800379	12023.693	15	45	13006.576	10.1141630	1068	9.8858370	7688.418	15
10.0797809	12016.581	14	46	13009.724	10.1142681	1069	9.8857319	7686.558	14
10.0795240	12009.474	13	47	13012.875	10.1143733	1070	9.8856267	7684.697	13
10.0792671	12002.373	12	48	13016.028	10.1144785	1071	9.8855215	7682.835	12
10.0790102	11995.276	11	49	13019.184	10.1145838	1072	9.8854162	7680.973	11
10.0787534	11988.184	10	50	13022.343	10.1146891	1073	9.8853109	7679.110	10
10.0784966	11981.097	9	51	13025.504	10.1147945	1074	9.8852055	7677.246	9
10.0782398	11974.015	8	52	13028.668	10.1149000	1075	9.8851000	7675.382	8
10.0779830	11966.938	7	53	13031.834	10.1150055	1076	9.8849945	7673.517	7
10.0777263	11959.866	6	54	13035.003	10.1151111	1077	9.8848889	7671.651	6
10.0774696	11952.799	5	55	13038.175	10.1152168	1078	9.8847832	7669.785	5
10.0772129	11945.736	4	56	13041.349	10.1153225	1079	9.8846775	7667.918	4
10.0769563	11938.679	3	57	13044.526	10.1154283	1080	9.8845717	7666.051	3
10.0766996	11931.626	2	58	13047.706	10.1155341	1081	9.8844659	7664.183	2
10.0764430	11924.579	1	59	13050.888	10.1156401	1082	9.8843599	7662.314	1
10.0761865	11917.536	0	60	13054.073	10.1157460	1083	9.8842540	7660.444	0

L. Tan

N. Tan

D. Sin

N. Sin

40	N. Sin.	L. Sin.	Diff.				40	N. Tan.	L. Tan.	Diff.
0	6427.876	9.8080675		10.1919325	15557.238	60	0	390.996	9.9238135	
1	6430.104	9.8082180	1505	10.1917820	15551.848	59	1	392.954	9.9240701	2566
2	6432.332	9.8083684	1504	10.1916316	15546.462	58	2	394.915	9.9243266	2565
3	6434.559	9.8085188	1504	10.1914812	15541.081	57	3	396.878	9.9245831	2565
4	6436.785	9.8086690	1502	10.1913310	15535.706	56	4	398.844	9.9248396	2564
5	6439.011	9.8088192	1502	10.1911808	15530.335	55	5	398.812	9.9250959	2564
6	6441.236	9.8089692	1500	10.1910308	15524.970	54	6	398.782	9.9253524	2564
7	6443.461	9.8091192	1500	10.1908808	15519.609	53	7	398.755	9.9256088	2564
8	6445.689	9.8092691	1499	10.1907309	15514.254	52	8	398.730	9.9258652	2564
9	6447.909	9.8094189	1498	10.1905811	15508.904	51	9	398.708	9.9261215	2563
10	6450.132	9.8095686	1497	10.1904314	15503.558	50	10	398.688	9.9263778	2563
11	6452.355	9.8097182	1496	10.1902818	15498.218	49	11	398.670	9.9266341	2563
12	6454.577	9.8098678	1496	10.1901322	15492.882	48	12	398.651	9.9268904	2563
13	6456.798	9.8100172	1494	10.1899828	15487.552	47	13	398.634	9.9271466	2562
14	6459.019	9.8101666	1494	10.1898334	15482.227	46	14	398.619	9.9274027	2562
15	6461.240	9.8103159	1493	10.1896841	15476.907	45	15	398.605	9.9276589	2562
16	6463.460	9.8104650	1491	10.1895350	15471.590	44	16	398.592	9.9279151	2561
17	6465.679	9.8106141	1491	10.1893859	15466.280	43	17	398.579	9.9281712	2561
18	6467.898	9.8107631	1490	10.1892369	15460.974	42	18	398.567	9.9284274	2561
19	6470.116	9.8109121	1490	10.1890879	15455.673	41	19	398.556	9.9286835	2561
20	6472.334	9.8110609	1488	10.1889391	15450.378	40	20	398.546	9.9289396	2560
21	6474.551	9.8112096	1487	10.1887904	15445.087	39	21	398.537	9.9291956	2560
22	6476.767	9.8113583	1487	10.1886417	15439.801	38	22	398.529	9.9294516	2560
23	6478.983	9.8115069	1486	10.1884931	15434.520	37	23	398.522	9.9297077	2560
24	6481.199	9.8116554	1485	10.1883446	15429.244	36	24	398.516	9.9299637	2559
25	6483.414	9.8118038	1484	10.1881962	15423.973	35	25	398.511	9.9302198	2559
26	6485.628	9.8119521	1483	10.1880479	15418.706	34	26	398.507	9.9304758	2559
27	6487.842	9.8121003	1482	10.1878997	15413.445	33	27	398.504	9.9307318	2558
28	6490.055	9.8122484	1481	10.1877516	15408.189	32	28	398.502	9.9309878	2558
29	6492.268	9.8123965	1481	10.1876035	15402.937	31	29	398.501	9.9312438	2558
30	6494.480	9.8125444	1479	10.1874556	15397.690	30	30	398.500	9.9314998	2558
31	6496.692	9.8126923	1479	10.1873077	15392.449	29	31	398.500	9.9317557	2558
32	6498.903	9.8128401	1478	10.1871599	15387.212	28	32	398.500	9.9320116	2557
33	6501.114	9.8129878	1477	10.1870122	15381.980	27	33	398.500	9.9322675	2557
34	6503.324	9.8131354	1476	10.1868646	15376.752	26	34	398.500	9.9325234	2557
35	6505.533	9.8132829	1475	10.1867171	15371.530	25	35	398.500	9.9327793	2557
36	6507.742	9.8134303	1474	10.1865697	15366.312	24	36	398.500	9.9330352	2556
37	6509.950	9.8135777	1474	10.1864223	15361.100	23	37	398.500	9.9332911	2556
38	6512.158	9.8137250	1473	10.1862750	15355.892	22	38	398.500	9.9335470	2556
39	6514.366	9.8138721	1471	10.1861279	15350.689	21	39	398.500	9.9338029	2556
40	6516.573	9.8140192	1471	10.1859808	15345.491	20	40	398.500	9.9340588	2555
41	6518.778	9.8141662	1470	10.1858338	15340.297	19	41	398.500	9.9343147	2555
42	6520.984	9.8143131	1469	10.1856869	15335.109	18	42	398.500	9.9345706	2555
43	6523.189	9.8144600	1469	10.1855400	15329.925	17	43	398.500	9.9348265	2555
44	6525.394	9.8146067	1467	10.1853933	15324.746	16	44	398.500	9.9350824	2555
45	6527.598	9.8147534	1465	10.1852466	15319.572	15	45	398.500	9.9353383	2554
46	6529.801	9.8148999	1465	10.1851001	15314.402	14	46	398.500	9.9355942	2554
47	6532.004	9.8150464	1464	10.1849536	15309.238	13	47	398.500	9.9358501	2554
48	6534.206	9.8151928	1464	10.1848072	15304.078	12	48	398.500	9.9361060	2554
49	6536.408	9.8153391	1463	10.1846609	15298.923	11	49	398.500	9.9363619	2553
50	6538.609	9.8154854	1461	10.1845146	15293.773	10	50	398.500	9.9366178	2553
51	6540.810	9.8156315	1461	10.1843685	15288.627	9	51	398.500	9.9368737	2553
52	6543.010	9.8157776	1459	10.1842224	15283.487	8	52	398.500	9.9371296	2553
53	6545.209	9.8159235	1459	10.1840765	15278.351	7	53	398.500	9.9373855	2552
54	6547.408	9.8160694	1459	10.1839306	15273.219	6	54	398.500	9.9376414	2552
55	6549.606	9.8162152	1458	10.1837848	15268.093	5	55	398.500	9.9378973	2552
56	6551.804	9.8163609	1457	10.1836391	15262.971	4	56	398.500	9.9381532	2552
57	6554.001	9.8165066	1457	10.1834934	15257.854	3	57	398.500	9.9384091	2552
58	6556.198	9.8166521	1455	10.1833479	15252.741	2	58	398.500	9.9386650	2551
59	6558.394	9.8167975	1454	10.1832025	15247.634	1	59	398.500	9.9389209	2551
60	6560.590	9.8169429	1454	10.1830571	15242.531	0	60	398.500	9.9391768	2551
Diff. L. Sec.				N. Sec. 49				Diff.		

		40	N. Sec.	L. Sec.	Dif.		
10.0761864	11917.536	60	10.1157460	1051	9.8842540	7660.444	60
10.0759399	11910.498	59	10.1158521	1061	9.8841479	7658.574	59
10.0756734	11903.461	58	10.1159582	1061	9.8840418	7656.703	58
10.0754169	11896.437	57	10.1160643	1063	9.8839357	7654.832	57
10.0751604	11889.414	56	10.1161706	1063	9.8838294	7652.960	56
10.0749040	11882.391	55	10.1162768	1064	9.8837232	7651.087	55
10.0746476	11875.362	54	10.1163832	1064	9.8836168	7649.214	54
10.0743912	11868.373	53	10.1164896	1065	9.8835104	7647.340	53
10.0741348	11861.369	52	10.1165961	1065	9.8834039	7645.465	52
10.0738785	11854.370	51	10.1167026	1066	9.8832974	7643.590	51
10.0736222	11847.376	50	10.1168092	1067	9.8831908	7641.714	50
10.0733659	11840.387	49	10.1169159	1067	9.8830841	7639.837	49
10.0731096	11833.402	48	10.1170226	1068	9.8829774	7637.960	48
10.0728534	11826.422	47	10.1171294	1068	9.8828706	7636.082	47
10.0725972	11819.447	46	10.1172362	1069	9.8827638	7634.204	46
10.0723410	11812.477	45	10.1173432	1069	9.8826568	7632.325	45
10.0720848	11805.512	44	10.1174501	1071	9.8825499	7630.445	44
10.0718287	11798.551	43	10.1175572	1071	9.8824428	7628.564	43
10.0715726	11791.595	42	10.1176643	1072	9.8823357	7626.682	42
10.0713165	11784.644	41	10.1177714	1072	9.8822285	7624.801	41
10.0710604	11777.698	40	10.1178787	1073	9.8821213	7622.919	40
10.0708043	11770.763	39	10.1179860	1073	9.8820140	7621.036	39
10.0705484	11763.830	38	10.1180933	1073	9.8819067	7619.152	38
10.0702924	11756.888	37	10.1182008	1074	9.8817992	7617.268	37
10.0700364	11749.960	36	10.1183082	1076	9.8816918	7615.383	36
10.0697804	11743.038	35	10.1184158	1076	9.8815842	7613.497	35
10.0695245	11736.110	34	10.1185234	1077	9.8814766	7611.611	34
10.0692686	11729.207	33	10.1186311	1077	9.8813689	7609.724	33
10.0690128	11722.298	32	10.1187388	1078	9.8812612	7607.837	32
10.0687569	11715.395	31	10.1188465	1079	9.8811534	7605.949	31
10.0685011	11708.496	30	10.1189541	1079	9.8810455	7604.060	30
10.0682453	11701.601	29	10.1190614	1080	9.8809376	7602.170	29
10.0679895	11694.712	28	10.1191704	1081	9.8808296	7600.280	28
10.0677338	11687.827	27	10.1192785	1081	9.8807215	7598.389	27
10.0674780	11680.947	26	10.1193866	1082	9.8806134	7596.498	26
10.0672223	11674.071	25	10.1194948	1082	9.8805052	7594.606	25
10.0669666	11667.200	24	10.1196030	1083	9.8803970	7592.712	24
10.0667110	11660.334	23	10.1197113	1084	9.8802887	7590.820	23
10.0664554	11653.472	22	10.1198197	1084	9.8801803	7588.925	22
10.0661997	11646.615	21	10.1199281	1085	9.8800719	7587.031	21
10.0659441	11639.763	20	10.1200366	1086	9.8799634	7585.136	20
10.0656886	11632.916	19	10.1201452	1086	9.8798548	7583.240	19
10.0654330	11626.073	18	10.1202538	1087	9.8797462	7581.343	18
10.0651775	11619.234	17	10.1203625	1088	9.8796375	7579.446	17
10.0649220	11612.400	16	10.1204713	1088	9.8795287	7577.548	16
10.0646665	11605.571	15	10.1205801	1089	9.8794199	7575.650	15
10.0644111	11598.747	14	10.1206890	1089	9.8793110	7573.751	14
10.0641556	11591.927	13	10.1207979	1091	9.8792021	7571.851	13
10.0639002	11585.111	12	10.1209070	1090	9.8790930	7569.950	12
10.0636448	11578.301	11	10.1210160	1092	9.8789840	7568.049	11
10.0633895	11571.495	10	10.1211252	1092	9.8788748	7566.147	10
10.0631341	11564.693	9	10.1212344	1093	9.8787656	7564.245	9
10.0628788	11557.896	8	10.1213437	1093	9.8786563	7562.342	8
10.0626235	11551.104	7	10.1214530	1094	9.8785470	7560.439	7
10.0623682	11544.316	6	10.1215624	1095	9.8784376	7558.535	6
10.0621129	11537.532	5	10.1216719	1095	9.8783281	7556.630	5
10.0618577	11530.754	4	10.1217814	1096	9.8782186	7554.724	4
10.0616025	11523.979	3	10.1218910	1096	9.8781091	7552.818	3
10.0613473	11517.210	2	10.1220008	1098	9.8779994	7550.911	2
10.0610921	11510.445	1	10.1221108	1098	9.8778896	7549.004	1
10.0608369	11503.684	0	10.1222201	1097	9.8777799	7547.096	0
L. Tan.	N. Tan.	49		Dif.	L. Sin.	N. Sin.	49

N. Sin.	L. Sin.	Dif.	N. Tan.	L. Tan.	Dif.
0 6560.590	9.8162429		0 8692.868	9.9391631	
1 6562.785	9.8170382	1453	1 8697.976	9.9394182	2551
2 6564.980	9.8172334	1452	2 8703.087	9.9396733	2551
3 6567.174	9.8173785	1451	3 8708.200	9.9399284	2551
4 6569.357	9.8175235	1450	4 8713.316	9.9401835	2551
5 6571.560	9.8176685	1450	5 8718.435	9.9404385	2550
6 6573.752	9.8178133	1448	6 8723.556	9.9406936	2550
7 6575.944	9.8179581	1448	7 8728.680	9.9409486	2550
8 6578.135	9.8181028	1447	8 8733.806	9.9412036	2550
9 6580.326	9.8182474	1446	9 8738.935	9.9414585	2549
10 6582.516	9.8183919	1445	10 8744.067	9.9417135	2549
11 6584.706	9.8185364	1445	11 8749.201	9.9419684	2549
12 6586.895	9.8186807	1443	12 8754.338	9.9422233	2549
13 6589.083	9.8188250	1443	13 8759.478	9.9424781	2549
14 6591.271	9.8189692	1441	14 8764.620	9.9427331	2548
15 6593.458	9.8191133	1441	15 8769.765	9.9429879	2548
16 6595.645	9.8192573	1440	16 8774.912	9.9432428	2548
17 6597.831	9.8194012	1439	17 8780.062	9.9434976	2548
18 6600.017	9.8195450	1438	18 8785.215	9.9437524	2548
19 6602.202	9.8196888	1438	19 8790.370	9.9440072	2548
20 6604.386	9.8198325	1437	20 8795.528	9.9442619	2547
21 6606.570	9.8199761	1436	21 8800.689	9.9445166	2547
22 6608.753	9.8201196	1435	22 8805.852	9.9447714	2547
23 6610.936	9.8202630	1434	23 8811.018	9.9450261	2547
24 6613.118	9.8204063	1433	24 8816.186	9.9452807	2547
25 6615.300	9.8205496	1433	25 8821.357	9.9455354	2547
26 6617.481	9.8206927	1431	26 8826.531	9.9457900	2547
27 6619.662	9.8208358	1431	27 8831.707	9.9460447	2547
28 6621.842	9.8209788	1430	28 8836.886	9.9462993	2546
29 6624.022	9.8211217	1429	29 8842.068	9.9465539	2546
30 6626.201	9.8212646	1429	30 8847.253	9.9468084	2546
31 6628.379	9.8214073	1427	31 8852.440	9.9470630	2546
32 6630.557	9.8215500	1427	32 8857.630	9.9473177	2546
33 6632.734	9.8216926	1426	33 8862.822	9.9475724	2546
34 6634.911	9.8218351	1425	34 8868.017	9.9478269	2546
35 6637.087	9.8219775	1424	35 8873.215	9.9480816	2546
36 6639.262	9.8221198	1423	36 8878.416	9.9483361	2546
37 6641.437	9.8222621	1423	37 8883.620	9.9485908	2546
38 6643.611	9.8224042	1421	38 8888.826	9.9488454	2546
39 6645.785	9.8225463	1421	39 8894.034	9.9490998	2546
40 6647.959	9.8226883	1420	40 8899.245	9.9493543	2546
41 6650.132	9.8228302	1419	41 8904.459	9.9496087	2546
42 6652.304	9.8229721	1419	42 8909.675	9.9498631	2546
43 6654.475	9.8231138	1417	43 8914.894	9.9501176	2546
44 6656.646	9.8232555	1417	44 8920.116	9.9503720	2546
45 6658.817	9.8233971	1416	45 8925.341	9.9506264	2546
46 6660.987	9.8235386	1415	46 8930.569	9.9508809	2546
47 6663.156	9.8236800	1414	47 8935.799	9.9511353	2546
48 6665.325	9.8238213	1413	48 8941.032	9.9513897	2546
49 6667.493	9.8239626	1413	49 8946.268	9.9516441	2546
50 6669.661	9.8241037	1411	50 8951.506	9.9518986	2546
51 6671.828	9.8242448	1411	51 8956.747	9.9521530	2546
52 6673.994	9.8243858	1410	52 8961.991	9.9524074	2546
53 6676.160	9.8245267	1409	53 8967.238	9.9526618	2546
54 6678.326	9.8246676	1409	54 8972.487	9.9529162	2546
55 6680.491	9.8248083	1407	55 8977.739	9.9531706	2546
56 6682.655	9.8249490	1407	56 8982.994	9.9534251	2546
57 6684.818	9.8250896	1406	57 8988.252	9.9536795	2546
58 6686.981	9.8252301	1405	58 8993.512	9.9539339	2546
59 6689.144	9.8253705	1404	59 8998.775	9.9541884	2546
60 6691.306	9.8255109	1404	60 9004.041	9.9544428	2546
	Dif.	L. Sec.		N. Sec.	Dif.

41 N. Sec.			L. Sec.			Du.		
10.0608369	11503.684	60	13250.130	10.122201	1099	9.877779	7547.09	60
10.0608188	11496.289	59	13253.482	10.122300	1099	9.877670	7545.13	59
10.0603267	11490.176	58	13256.837	10.1224399	1100	9.877560	7543.27	58
10.0600716	11483.429	57	13260.194	10.1225499	1100	9.877450	7541.36	57
10.0598165	11476.687	56	13263.554	10.1226599	1101	9.877340	7539.45	56
10.0595615	11459.949	55	13266.918	10.1227700	1102	9.8772300	7537.54	55
10.0593064	11463.215	54	13270.284	10.1228800	1102	9.8771198	7535.63	54
10.0590514	11456.486	53	13273.653	10.1229900	1102	9.8770096	7533.72	53
10.0587964	11449.762	52	13277.025	10.1231007	1103	9.8768993	7531.80	52
10.0585415	11443.041	51	13280.399	10.1232111	1104	9.8767889	7529.89	51
10.0582865	11436.326	50	13283.776	10.1233215	1105	9.8766785	7527.98	50
10.0580315	11429.615	49	13287.156	10.1234320	1105	9.8765680	7526.06	49
10.0577767	11422.908	48	13290.539	10.1235426	1106	9.8764577	7524.14	48
10.0575218	11416.206	47	13293.925	10.1236532	1106	9.8763466	7522.23	47
10.0572669	11409.508	46	13297.314	10.1237637	1107	9.8762361	7520.31	46
10.0570121	11402.815	45	13300.706	10.1238747	1108	9.8761253	7518.39	45
10.0567572	11396.126	44	13304.100	10.1239855	1108	9.8760145	7516.48	44
10.0565024	11389.441	43	13307.497	10.1240964	1109	9.8759037	7514.56	43
10.0562476	11382.761	42	13310.897	10.1242077	1110	9.8757927	7512.64	42
10.0559928	11376.085	41	13314.300	10.1243184	1111	9.8756816	7510.72	41
10.0557381	11369.414	40	13317.706	10.1244294	1112	9.8755707	7508.80	40
10.0554834	11362.747	39	13321.115	10.1245406	1112	9.8754594	7506.87	39
10.0552286	11356.085	38	13324.527	10.1246518	1113	9.8753482	7504.95	38
10.0549739	11349.427	37	13327.942	10.1247631	1113	9.8752369	7503.03	37
10.0547193	11342.773	36	13331.359	10.1248744	1114	9.8751254	7501.11	36
10.0544646	11336.124	35	13334.779	10.1249858	1114	9.8750142	7499.18	35
10.0542100	11329.479	34	13338.201	10.1250973	1115	9.8749027	7497.26	34
10.0539553	11322.839	33	13341.628	10.1252088	1117	9.8747912	7495.33	33
10.0537007	11316.203	32	13345.057	10.1253205	1116	9.8746795	7493.41	32
10.0534461	11309.571	31	13348.489	10.1254321	1118	9.8745675	7491.48	31
10.0531916	11302.944	30	13351.924	10.1255439	1118	9.8744561	7489.57	30
10.0529370	11296.321	29	13355.361	10.1256557	1113	9.8743443	7487.62	29
10.0526825	11289.702	28	13358.803	10.1257675	1120	9.8742325	7485.70	28
10.0524280	11283.088	27	13362.246	10.1258795	1120	9.8741205	7483.77	27
10.0521735	11276.478	26	13365.692	10.1259915	1120	9.8740085	7481.84	26
10.0519190	11269.872	25	13369.141	10.1261035	1121	9.8738965	7479.91	25
10.0516645	11263.271	24	13372.594	10.1262156	1122	9.8737844	7477.98	24
10.0514101	11256.674	23	13376.049	10.1263278	1123	9.8736722	7476.04	23
10.0511557	11250.081	22	13379.507	10.1264401	1123	9.8735601	7474.11	22
10.0509013	11243.493	21	13382.968	10.1265524	1124	9.8734476	7472.18	21
10.0506469	11236.909	20	13386.432	10.1266648	1125	9.8733352	7470.25	20
10.0503925	11230.329	19	13389.899	10.1267773	1125	9.8732227	7468.31	19
10.0501381	11223.754	18	13393.369	10.1268898	1126	9.8731102	7466.38	18
10.0498838	11217.183	17	13396.842	10.1270024	1127	9.8729976	7464.44	17
10.0496295	11210.616	16	13400.317	10.1271151	1127	9.8728849	7462.50	16
10.0493752	11204.053	15	13403.795	10.1272278	1128	9.8727722	7460.57	15
10.0491209	11197.495	14	13407.276	10.1273406	1128	9.8726594	7458.63	14
10.0488666	11190.941	13	13410.761	10.1274534	1129	9.8725466	7456.69	13
10.0486124	11184.391	12	13414.248	10.1275662	1130	9.8724337	7454.76	12
10.0483581	11177.846	11	13417.738	10.1276793	1131	9.8723207	7452.82	11
10.0481039	11171.305	10	13421.232	10.1277924	1131	9.8722076	7450.88	10
10.0478497	11164.768	9	13424.728	10.1279055	1132	9.8720945	7448.94	9
10.0475955	11158.235	8	13428.227	10.1280187	1132	9.8719813	7446.99	8
10.0473413	11151.706	7	13431.729	10.1281319	1133	9.8718681	7445.05	7
10.0470872	11145.182	6	13435.234	10.1282452	1134	9.8717548	7443.11	6
10.0468330	11138.662	5	13438.742	10.1283586	1135	9.8716414	7441.17	5
10.0465789	11132.144	4	13442.253	10.1284721	1135	9.8715279	7439.22	4
10.0463248	11125.635	3	13445.767	10.1285856	1136	9.8714144	7437.28	3
10.0460707	11119.127	2	13449.284	10.1286992	1136	9.8713008	7435.34	2
10.0458166	11112.624	1	13452.804	10.1288128	1137	9.8711872	7433.39	1
10.0455626	11106.125	0	13456.327	10.1289265	1137	9.8710734	7431.44	0
L. Tan.	N. Tan.	48				Diff. L. Sin.	N. Sin.	48

42	N. Sm.	L. Sm.	Dif.			42	N. Tan.	L. Tan.	Dif.
0	6691.306	9.8255109	1403	10.1744891	14944.766	60	9004.041	9.9544374	2541
1	6693.457	9.8256512	1401	10.1743438	14939.940	59	13009.309	9.9546915	2540
2	6695.628	9.8257913	1401	10.1742087	14935.118	58	2014.580	9.9549455	2540
3	6697.788	9.8259314	1401	10.1740686	14930.301	57	3019.854	9.9551995	2540
4	6699.948	9.8260715	1399	10.1739285	14925.488	56	4025.131	9.9554535	2540
5	6702.107	9.8262114	1398	10.1737886	14920.660	55	5030.411	9.9557075	2540
6	6704.266	9.8263512	1398	10.1736488	14915.875	54	6035.694	9.9559615	2539
7	6706.424	9.8264910	1397	10.1735090	14911.076	53	7040.979	9.9562154	2539
8	6708.582	9.8266307	1396	10.1733693	14906.280	52	8046.267	9.9564694	2539
9	6710.739	9.8267703	1395	10.1732297	14901.489	51	9051.558	9.9567233	2539
10	6712.895	9.8269098	1395	10.1730902	14896.703	50	10056.851	9.9569772	2539
11	6715.051	9.8270495	1394	10.1729507	14891.920	49	11062.147	9.9572311	2539
12	6717.206	9.8271887	1392	10.1728113	14887.142	48	12067.446	9.9574850	2539
13	6719.361	9.8273279	1392	10.1726721	14882.369	47	13072.748	9.9577389	2539
14	6721.515	9.8274671	1392	10.1725329	14877.599	46	14078.053	9.9579927	2538
15	6723.668	9.8276063	1390	10.1723937	14872.834	45	15083.360	9.9582465	2538
16	6725.821	9.8277455	1390	10.1722547	14868.073	44	16088.671	9.9585004	2538
17	6727.973	9.8278843	1388	10.1721157	14863.317	43	17093.984	9.9587542	2538
18	6730.125	9.8280231	1388	10.1719769	14858.565	42	18099.300	9.9590080	2538
19	6732.276	9.8281619	1387	10.1718381	14853.817	41	19104.619	9.9592618	2538
20	6734.427	9.8283006	1387	10.1716994	14849.073	40	20109.941	9.9595155	2538
21	6736.577	9.8284393	1385	10.1715607	14844.334	39	21115.265	9.9597693	2537
22	6738.727	9.8285778	1385	10.1714222	14839.599	38	22120.592	9.9600230	2537
23	6740.876	9.8287163	1384	10.1712837	14834.868	37	23125.922	9.9602767	2537
24	6743.024	9.8288547	1383	10.1711453	14830.142	36	24131.255	9.9605305	2537
25	6745.172	9.8289930	1382	10.1710070	14825.420	35	25136.591	9.9607842	2537
26	6747.319	9.8291312	1382	10.1708688	14820.702	34	26141.929	9.9610378	2536
27	6749.466	9.8292694	1381	10.1707306	14815.983	33	27147.270	9.9612915	2537
28	6751.612	9.8294075	1379	10.1705925	14811.278	32	28152.615	9.9615452	2536
29	6753.757	9.8295455	1379	10.1704546	14806.573	31	29157.962	9.9617988	2536
30	6755.902	9.8296833	1379	10.1703167	14801.872	30	30163.312	9.9620525	2536
31	6758.046	9.8298212	1377	10.1701788	14797.176	29	31168.665	9.9623061	2536
32	6760.190	9.8299593	1377	10.1700411	14792.483	28	32174.020	9.9625597	2536
33	6762.333	9.8300966	1376	10.1699034	14787.795	27	33179.379	9.9628133	2536
34	6764.476	9.8302342	1375	10.1697658	14783.111	26	34184.740	9.9630669	2535
35	6766.618	9.8303717	1374	10.1696283	14778.431	25	35190.104	9.9633204	2535
36	6768.760	9.8305091	1373	10.1694909	14773.755	24	36195.471	9.9635740	2535
37	6770.901	9.8306464	1373	10.1693536	14769.084	23	37200.841	9.9638275	2535
38	6773.041	9.8307837	1372	10.1692163	14764.417	22	38206.214	9.9640811	2535
39	6775.181	9.8309209	1372	10.1690791	14759.754	21	39211.590	9.9643346	2535
40	6777.320	9.8310580	1371	10.1689420	14755.095	20	40216.968	9.9645881	2535
41	6779.459	9.8311950	1370	10.1688050	14750.440	19	41222.350	9.9648416	2535
42	6781.597	9.8313320	1370	10.1686680	14745.790	18	42227.734	9.9650951	2535
43	6783.734	9.8314688	1368	10.1685312	14741.144	17	43233.122	9.9653486	2535
44	6785.871	9.8316056	1367	10.1683944	14736.501	16	44238.512	9.9656020	2535
45	6788.007	9.8317423	1366	10.1682577	14731.864	15	45243.905	9.9658555	2535
46	6790.143	9.8318789	1366	10.1681211	14727.230	14	46249.301	9.9661089	2534
47	6792.278	9.8320155	1364	10.1679845	14722.600	13	47254.700	9.9663623	2534
48	6794.413	9.8321519	1364	10.1678481	14717.975	12	48260.101	9.9666157	2534
49	6796.547	9.8322883	1363	10.1677117	14713.353	11	49265.506	9.9668692	2534
50	6798.681	9.8324246	1363	10.1675754	14708.736	10	50270.914	9.9671225	2534
51	6800.814	9.8325609	1361	10.1674391	14704.123	9	51276.324	9.9673759	2534
52	6802.946	9.8326970	1361	10.1673030	14699.514	8	52281.738	9.9676293	2534
53	6805.078	9.8328331	1360	10.1671669	14694.910	7	53287.154	9.9678827	2533
54	6807.209	9.8329691	1359	10.1670309	14690.309	6	54292.573	9.9681360	2533
55	6809.339	9.8331050	1358	10.1668950	14685.713	5	55297.996	9.9683893	2533
56	6811.469	9.8332408	1358	10.1667592	14681.120	4	56303.421	9.9686427	2533
57	6813.599	9.8333766	1356	10.1666234	14676.532	3	57308.849	9.9688960	2533
58	6815.728	9.8335122	1356	10.1664878	14671.948	2	58314.280	9.9691493	2533
59	6817.856	9.8336478	1355	10.1663522	14667.368	1	59319.714	9.9694026	2533
60	6819.984	9.8337833	1355	10.1662167	14662.792	0	60325.151	9.9696559	2533
			Dif.	L. Sec.	N. Sec.	47			Dif.

			42	N. Sec.	L. Sec.	Dit.			
10.0455626	11106.125	60	0	13456.327	10.1289265	9.8710735	7431.448	60	
10.0453085	11099.630	59	1	13459.853	10.1290403	9.8709597	7429.501	59	
10.0450545	11093.140	58	2	13463.382	10.1291542	9.8708458	7427.554	58	
10.0448005	11086.653	57	3	13466.914	10.1292681	9.8707319	7425.606	57	
10.0445465	11080.171	56	4	13470.449	10.1293821	9.8706179	7423.657	56	
10.0442925	11073.693	55	5	13473.987	10.1294961	9.8705039	7421.708	55	
10.0440385	11067.219	54	6	13477.528	10.1296102	9.8703898	7419.758	54	
10.0437846	11060.750	53	7	13481.072	10.1297244	9.8702756	7417.808	53	
10.0435306	11054.284	52	8	13484.619	10.1298387	9.8701613	7415.857	52	
10.0432767	11047.823	51	9	13488.169	10.1299530	9.8700470	7413.905	51	
10.0430228	11041.365	50	10	13491.721	10.1300674	9.8699326	7411.953	50	
10.0427689	11034.912	49	11	13495.277	10.1301818	9.8698182	7410.000	49	
10.0425150	11028.463	48	12	13498.836	10.1302963	9.8697037	7408.046	48	
10.0422611	11022.019	47	13	13502.398	10.1304109	9.8695891	7406.092	47	
10.0420073	11015.578	46	14	13505.963	10.1305256	9.8694744	7404.137	46	
10.0417535	11009.141	45	15	13509.531	10.1306403	9.8693597	7402.181	45	
10.0414996	11002.709	44	16	13513.102	10.1307551	9.8692449	7400.225	44	
10.0412458	10996.281	43	17	13516.676	10.1308699	9.8691301	7398.268	43	
10.0409920	10989.856	42	18	13520.254	10.1309848	9.8690152	7396.311	42	
10.0407382	10983.436	41	19	13523.834	10.1310998	9.8689002	7394.353	41	
10.0404845	10977.020	40	20	13527.417	10.1312149	9.8687851	7392.394	40	
10.0402307	10970.608	39	21	13531.003	10.1313300	9.8686700	7390.435	39	
10.0399770	10964.201	38	22	13534.593	10.1314452	9.8685548	7388.475	38	
10.0397233	10957.797	37	23	13538.186	10.1315604	9.8684396	7386.515	37	
10.0394695	10951.397	36	24	13541.781	10.1316758	9.8683242	7384.554	36	
10.0392158	10945.002	35	25	13545.379	10.1317912	9.8682088	7382.592	35	
10.0389622	10938.610	34	26	13548.980	10.1319066	9.8680934	7380.629	34	
10.0387085	10932.223	33	27	13552.585	10.1320221	9.8679779	7378.666	33	
10.0384548	10925.840	32	28	13556.193	10.1321377	9.8678623	7376.702	32	
10.0382012	10919.460	31	29	13559.803	10.1322534	9.8677466	7374.738	31	
10.0379475	10913.085	30	30	13563.417	10.1323691	9.8676309	7372.773	30	
10.0376939	10906.714	29	31	13567.034	10.1324849	9.8675151	7370.808	29	
10.0374403	10900.347	28	32	13570.654	10.1326008	9.8673992	7368.842	28	
10.0371867	10893.983	27	33	13574.277	10.1327167	9.8672833	7366.875	27	
10.0369331	10887.624	26	34	13577.903	10.1328327	9.8671673	7364.907	26	
10.0366796	10881.269	25	35	13581.532	10.1329488	9.8670512	7362.939	25	
10.0364260	10874.918	24	36	13585.164	10.1330649	9.8669351	7360.971	24	
10.0361725	10868.571	23	37	13588.800	10.1331811	9.8668189	7359.002	23	
10.0359189	10862.228	22	38	13592.438	10.1332974	9.8667026	7357.032	22	
10.0356654	10855.889	21	39	13596.080	10.1334137	9.8665863	7355.061	21	
10.0354119	10849.554	20	40	13599.725	10.1335301	9.8664699	7353.090	20	
10.0351584	10843.223	19	41	13603.372	10.1336466	9.8663534	7351.118	19	
10.0349049	10836.896	18	42	13607.023	10.1337631	9.8662369	7349.146	18	
10.0346514	10830.573	17	43	13610.677	10.1338797	9.8661203	7347.173	17	
10.0343980	10824.254	16	44	13614.334	10.1339964	9.8660037	7345.199	16	
10.0341445	10817.939	15	45	13617.995	10.1341132	9.8658868	7343.225	15	
10.0338911	10811.628	14	46	13621.658	10.1342300	9.8657700	7341.250	14	
10.0336377	10805.321	13	47	13625.324	10.1343469	9.8656531	7339.275	13	
10.0333843	10799.018	12	48	13628.994	10.1344638	9.8655362	7337.299	12	
10.0331308	10792.718	11	49	13632.667	10.1345808	9.8654192	7335.322	11	
10.0328775	10786.423	10	50	13636.343	10.1346979	9.8653021	7333.345	10	
10.0326241	10780.132	9	51	13640.022	10.1348151	9.8651849	7331.367	9	
10.0323707	10773.844	8	52	13643.704	10.1349323	9.8650677	7329.388	8	
10.0321173	10767.561	7	53	13647.389	10.1350496	9.8649504	7327.409	7	
10.0318640	10761.282	6	54	13651.078	10.1351669	9.8648331	7325.429	6	
10.0316107	10755.006	5	55	13654.770	10.1352844	9.8647156	7323.448	5	
10.0313573	10748.734	4	56	13658.464	10.1354019	9.8645981	7321.467	4	
10.0311040	10742.467	3	57	13662.162	10.1355194	9.8644806	7319.485	3	
10.0308507	10736.203	2	58	13665.863	10.1356371	9.8643629	7317.503	2	
10.0305974	10729.943	1	59	13669.567	10.1357548	9.8642452	7315.520	1	
10.0303441	10723.687	0	60	13673.275	10.1358725	9.8641275	7313.537	0	
L. Tan.	N. Tan.	47				Dit.	L. Sin.	N. Sin.	47

43	N. Sin.	L. Sin.	Diff.			43	N. Tan.	L. Tan.	Diff.
0	6819.984	9.8337833		10.1662167	14662.792	60	9325.151	9.9696559	2532
1	6822.111	9.8339188	1351	10.1660812	14658.220	59	19330.591	9.9699091	2533
2	6824.237	9.8340541	1353	10.1659459	14653.652	58	29336.034	9.9701624	2533
3	6826.363	9.8341894	1351	10.1658106	14649.088	57	39341.479	9.9704157	2533
4	6828.488	9.8343246	1351	10.1656754	14644.529	56	49346.928	9.9706689	2533
5	6830.613	9.8344597	1351	10.1655403	14639.973	55	59352.380	9.9709221	2533
6	6832.737	9.8345948	1351	10.1654052	14635.422	54	69357.834	9.9711754	2533
7	6834.861	9.8347297	1349	10.1652703	14630.875	53	79363.292	9.9714286	2532
8	6836.984	9.8348646	1349	10.1651354	14626.331	52	89368.753	9.9716818	2532
9	6839.107	9.8349994	1347	10.1650006	14621.792	51	99374.216	9.9719350	2532
10	6841.229	9.8351341	1347	10.1648659	14617.257	50	109379.683	9.9721882	2531
11	6843.350	9.8352688	1347	10.1647312	14612.726	49	119385.152	9.9724413	2531
12	6845.471	9.8354033	1345	10.1645967	14608.198	48	129390.625	9.9726945	2531
13	6847.591	9.8355378	1345	10.1644622	14603.675	47	139396.101	9.9729477	2531
14	6849.711	9.8356722	1344	10.1643278	14599.156	46	149401.579	9.9732008	2531
15	6851.830	9.8358066	1344	10.1641934	14594.641	45	159407.061	9.9734539	2531
16	6853.948	9.8359409	1344	10.1640592	14590.130	44	169412.545	9.9737071	2531
17	6856.066	9.8360750	1342	10.1639250	14585.623	43	179418.033	9.9739602	2531
18	6858.183	9.8362091	1341	10.1637909	14581.120	42	189423.523	9.9742133	2531
19	6860.300	9.8363431	1340	10.1636569	14576.621	41	199429.017	9.9744664	2531
20	6862.416	9.8364771	1340	10.1635229	14572.127	40	209434.513	9.9747195	2531
21	6864.532	9.8366109	1338	10.1633891	14567.636	39	219440.016	9.9749726	2531
22	6866.647	9.8367447	1338	10.1632553	14563.149	38	229445.513	9.9752257	2530
23	6868.761	9.8368784	1337	10.1631216	14558.666	37	239451.021	9.9754787	2530
24	6870.875	9.8370121	1337	10.1629879	14554.187	36	249456.530	9.9757318	2530
25	6872.988	9.8371456	1335	10.1628544	14549.712	35	259462.042	9.9759849	2530
26	6875.101	9.8372791	1335	10.1627209	14545.241	34	269467.556	9.9762379	2530
27	6877.213	9.8374125	1334	10.1625875	14540.774	33	279473.074	9.9764909	2530
28	6879.324	9.8375458	1333	10.1624542	14536.311	32	289478.595	9.9767440	2530
29	6881.435	9.8376790	1332	10.1623210	14531.852	31	299484.117	9.9769970	2530
30	6883.545	9.8378122	1332	10.1621878	14527.397	30	309489.646	9.9772500	2530
31	6885.655	9.8379453	1331	10.1620547	14522.946	29	319495.176	9.9775030	2530
32	6887.764	9.8380783	1330	10.1619217	14518.498	28	329500.709	9.9777560	2530
33	6889.873	9.8382112	1329	10.1617888	14514.055	27	339506.245	9.9780090	2530
34	6891.981	9.8383441	1329	10.1616559	14509.616	26	349511.784	9.9782620	2529
35	6894.089	9.8384769	1328	10.1615231	14505.181	25	359517.326	9.9785149	2529
36	6896.196	9.8386096	1327	10.1613904	14500.749	24	369522.871	9.9787679	2529
37	6898.302	9.8387422	1326	10.1612578	14496.322	23	379528.420	9.9790209	2529
38	6899.407	9.8388747	1325	10.1611253	14491.898	22	389533.971	9.9792738	2529
39	6901.512	9.8390072	1324	10.1609928	14487.478	21	399539.526	9.9795268	2529
40	6903.617	9.8391396	1323	10.1608604	14483.063	20	409545.083	9.9797797	2529
41	6905.721	9.8392719	1322	10.1607281	14478.651	19	419550.644	9.9800326	2529
42	6907.824	9.8394041	1322	10.1605959	14474.242	18	429556.208	9.9802856	2529
43	6910.927	9.8395363	1321	10.1604637	14469.839	17	439561.774	9.9805385	2529
44	6913.029	9.8396684	1321	10.1603316	14465.439	16	449567.344	9.9807914	2529
45	6915.131	9.8398004	1320	10.1601996	14461.043	15	459572.917	9.9810443	2529
46	6917.232	9.8399323	1319	10.1600677	14456.651	14	469578.494	9.9812972	2529
47	6919.332	9.8400642	1319	10.1599358	14452.262	13	479584.073	9.9815501	2529
48	6921.432	9.8401959	1317	10.1598041	14447.878	12	489589.655	9.9818030	2529
49	6923.531	9.8403276	1317	10.1596724	14443.497	11	499595.241	9.9820559	2529
50	6925.630	9.8404592	1315	10.1595407	14439.120	10	509600.829	9.9823087	2529
51	6927.728	9.8405908	1315	10.1594092	14434.748	9	519606.421	9.9825616	2528
52	6929.825	9.8407223	1315	10.1592777	14430.379	8	529612.016	9.9828145	2528
53	6931.922	9.8408537	1314	10.1591463	14426.013	7	539617.614	9.9830673	2529
54	6934.018	9.8409850	1313	10.1590150	14421.652	6	549623.215	9.9833202	2528
55	6936.114	9.8411162	1312	10.1588838	14417.295	5	559628.819	9.9835730	2528
56	6938.209	9.8412474	1312	10.1587526	14412.941	4	569634.427	9.9838259	2528
57	6940.304	9.8413785	1310	10.1586215	14408.591	3	579640.037	9.9840787	2528
58	6942.398	9.8415095	1309	10.1584905	14404.246	2	589645.651	9.9843315	2529
59	6944.491	9.8416404	1309	10.1583596	14399.904	1	599651.268	9.9845844	2528
60	6946.584	9.8417713	1309	10.1582287	14395.565	0	609656.888	9.9848372	2528
			Diff.	L. Sec.	N. Sec.	46			Diff.

			43	N. Sec.	L. Sec.	Dif				
10.0303441	10723.687	60	0	13673.275	10.1358725		9.8641275	7313.537	60	
10.0300909	10717.435	59	1	13676.985	10.1359904	1179	9.8640096	7311.553	59	
10.0298376	10711.187	58	2	13680.699	10.1361083	1179	9.8638917	7309.568	58	
10.0295843	10704.943	57	3	13684.416	10.1362263	1180	9.8637737	7307.583	57	
10.0293311	10698.702	56	4	13688.136	10.1363443	1180	9.8636557	7305.597	56	
10.0290779	10692.466	55	5	13691.859	10.1364624	1181	9.8635376	7303.610	55	
10.0288246	10686.233	54	6	13695.586	10.1365806	1182	9.8634194	7301.623	54	
10.0285714	10680.004	53	7	13699.315	10.1366989	1183	9.8633011	7299.635	53	
10.0283182	10673.775	52	8	13703.048	10.1368172	1183	9.8631828	7297.646	52	
10.0280650	10667.548	51	9	13706.784	10.1369356	1184	9.8630644	7295.657	51	
10.0278118	10661.321	50	10	13710.523	10.1370540	1184	9.8629460	7293.667	50	
10.0275587	10655.094	49	11	13714.266	10.1371726	1186	9.8628274	7291.677	49	
10.0273055	10648.868	48	12	13718.011	10.1372912	1186	9.8627088	7289.686	48	
10.0270523	10642.643	47	13	13721.760	10.1374098	1186	9.8625902	7287.694	47	
10.0267992	10636.418	46	14	13725.512	10.1375286	1188	9.8624714	7285.702	46	
10.0265461	10630.193	45	15	13729.268	10.1376474	1188	9.8623526	7283.709	45	
10.0262929	10623.968	44	16	13733.026	10.1377662	1188	9.8622338	7281.716	44	
10.0260398	10617.743	43	17	13736.788	10.1378852	1190	9.8621148	7279.722	43	
10.0257867	10611.518	42	18	13740.553	10.1380042	1190	9.8619958	7277.727	42	
10.0255336	10605.293	41	19	13744.321	10.1381233	1191	9.8618767	7275.732	41	
10.0252805	10599.068	40	20	13748.092	10.1382424	1191	9.8617576	7273.736	40	
10.0250274	10592.843	39	21	13751.867	10.1383617	1193	9.8616383	7271.740	39	
10.0247743	10586.618	38	22	13755.645	10.1384810	1193	9.8615190	7269.743	38	
10.0245213	10580.393	37	23	13759.426	10.1386003	1193	9.8613997	7267.745	37	
10.0242682	10574.168	36	24	13763.210	10.1387197	1194	9.8612803	7265.747	36	
10.0240151	10567.943	35	25	13766.998	10.1388392	1195	9.8611608	7263.748	35	
10.0237621	10561.718	34	26	13770.789	10.1389588	1196	9.8610412	7261.748	34	
10.0235091	10555.493	33	27	13774.583	10.1390785	1197	9.8609215	7259.748	33	
10.0232560	10549.268	32	28	13778.380	10.1391982	1197	9.8608018	7257.747	32	
10.0230030	10543.043	31	29	13782.181	10.1393179	1197	9.8606821	7255.746	31	
10.0227500	10536.818	30	30	13785.985	10.1394378	1199	9.8605622	7253.744	30	
10.0224970	10530.593	29	31	13789.792	10.1395577	1199	9.8604423	7251.741	29	
10.0222440	10524.368	28	32	13793.602	10.1396777	1200	9.8603223	7249.738	28	
10.0219910	10518.143	27	33	13797.416	10.1397978	1201	9.8602022	7247.734	27	
10.0217380	10511.918	26	34	13801.233	10.1399179	1201	9.8600821	7245.729	26	
10.0214850	10505.693	25	35	13805.053	10.1400381	1202	9.8599619	7243.724	25	
10.0212321	10501.034	24	36	13808.877	10.1401584	1203	9.8598416	7241.718	24	
10.0209791	10494.920	23	37	13812.704	10.1402787	1203	9.8597213	7239.712	23	
10.0207262	10488.809	22	38	13816.534	10.1403991	1205	9.8596009	7237.705	22	
10.0204732	10482.702	21	39	13820.367	10.1405196	1205	9.8594804	7235.698	21	
10.0202203	10476.598	20	40	13824.204	10.1406401	1206	9.8593599	7233.690	20	
10.0199674	10470.498	19	41	13828.044	10.1407607	1206	9.8592393	7231.681	19	
10.0197144	10464.402	18	42	13831.887	10.1408814	1207	9.8591186	7229.671	18	
10.0194615	10458.310	17	43	13835.734	10.1410022	1208	9.8589978	7227.661	17	
10.0192086	10452.221	16	44	13839.584	10.1411230	1208	9.8588770	7225.651	16	
10.0189557	10446.136	15	45	13843.437	10.1412439	1209	9.8587561	7223.640	15	
10.0187028	10440.055	14	46	13847.294	10.1413649	1210	9.8586351	7221.628	14	
10.0184499	10433.977	13	47	13851.154	10.1414859	1210	9.8585141	7219.615	13	
10.0181970	10427.904	12	48	13855.017	10.1416071	1212	9.8583929	7217.602	12	
10.0179441	10421.833	11	49	13858.883	10.1417282	1211	9.8582718	7215.588	11	
10.0176913	10415.767	10	50	13862.753	10.1418495	1213	9.8581505	7213.574	10	
10.0174384	10409.704	9	51	13866.626	10.1419708	1213	9.8580292	7211.559	9	
10.0171855	10403.645	8	52	13870.503	10.1420922	1214	9.8579078	7209.544	8	
10.0169327	10397.589	7	53	13874.383	10.1422137	1215	9.8577863	7207.528	7	
10.0166798	10391.537	6	54	13878.266	10.1423352	1215	9.8576648	7205.511	6	
10.0164270	10385.489	5	55	13882.153	10.1424568	1216	9.8575432	7203.494	5	
10.0161741	10379.445	4	56	13886.042	10.1425785	1217	9.8574215	7201.476	4	
10.0159213	10373.404	3	57	13889.936	10.1427002	1217	9.8572998	7199.457	3	
10.0156685	10367.367	2	58	13893.832	10.1428221	1219	9.8571779	7197.438	2	
10.0154156	10361.333	1	59	13897.732	10.1429439	1218	9.8570561	7195.418	1	
10.0151628	10355.303	0	60	13901.636	10.1430659	1220	9.8569341	7193.398	0	
L. Tan.	N. Tan.	46					Dit.	L. Sin.	N. Sin	46

44	N. Sin.	L. Sin.	Dif.				44	N. Tan.	L. Tan.	Dif.
0	6946.584	9.8417713		10.1582287	14395.565	60	09656.888	9.9848372		
1	6948.676	9.8419021	1308	10.1580979	14391.231	59	19662.511	9.9850900	2528	
2	6950.767	9.8420328	1307	10.1579671	14386.900	58	29668.137	9.9853428	2528	
3	6952.858	9.8421634	1306	10.1578366	14382.574	57	39673.767	9.9855956	2528	
4	6954.949	9.8422939	1305	10.1577061	14378.251	56	49679.400	9.9858484	2528	
5	6957.039	9.8424244	1304	10.1575756	14373.932	55	59685.035	9.9861012	2528	
6	6959.128	9.8425548	1304	10.1574452	14369.616	54	69690.674	9.9863540	2528	
7	6961.217	9.8426851	1303	10.1573149	14365.305	53	79696.316	9.9866068	2528	
8	6963.305	9.8428154	1303	10.1571846	14360.997	52	89701.962	9.9868596	2528	
9	6965.392	9.8429456	1302	10.1570543	14356.693	51	99707.610	9.9871123	2528	
10	6967.479	9.8430757	1301	10.1569243	14352.393	50	109713.262	9.9873651	2528	
11	6969.565	9.8432057	1300	10.1567943	14348.097	49	119718.917	9.9876179	2528	
12	6971.651	9.8433356	1299	10.1566644	14343.805	48	129724.575	9.9878706	2528	
13	6973.736	9.8434655	1299	10.1565345	14339.516	47	139730.232	9.9881234	2528	
14	6975.821	9.8435953	1298	10.1564047	14335.231	46	149735.901	9.9883761	2528	
15	6977.905	9.8437250	1297	10.1562750	14330.950	45	159741.569	9.9886289	2528	
16	6979.988	9.8438547	1297	10.1561453	14326.672	44	169747.240	9.9888816	2528	
17	6982.071	9.8439842	1295	10.1560158	14322.399	43	179752.914	9.9891344	2528	
18	6984.153	9.8441137	1295	10.1558863	14318.129	42	189758.591	9.9893871	2528	
19	6986.234	9.8442432	1295	10.1557568	14313.863	41	199764.272	9.9896399	2528	
20	6988.315	9.8443725	1293	10.1556275	14309.600	40	209769.956	9.9898926	2528	
21	6990.396	9.8445018	1293	10.1554982	14305.342	39	219775.643	9.9901453	2528	
22	6992.476	9.8446310	1292	10.1553690	14301.087	38	229781.333	9.9903981	2528	
23	6994.555	9.8447601	1291	10.1552399	14296.836	37	239787.027	9.9906508	2528	
24	6996.633	9.8448891	1290	10.1551109	14292.588	36	249792.724	9.9909035	2528	
25	6998.711	9.8450181	1290	10.1549819	14288.344	35	259798.424	9.9911562	2528	
26	7000.789	9.8451470	1289	10.1548530	14284.104	34	269804.127	9.9914089	2528	
27	7002.866	9.8452758	1288	10.1547242	14279.868	33	279809.833	9.9916616	2528	
28	7004.942	9.8454045	1287	10.1545955	14275.636	32	289815.543	9.9919143	2528	
29	7007.018	9.8455332	1287	10.1544668	14271.407	31	299821.256	9.9921670	2528	
30	7009.093	9.8456618	1286	10.1543382	14267.182	30	309826.973	9.9924197	2528	
31	7011.167	9.8457903	1285	10.1542097	14262.961	29	319832.692	9.9926724	2528	
32	7013.241	9.8459188	1285	10.1540812	14258.743	28	329838.415	9.9929251	2528	
33	7015.314	9.8460471	1283	10.1539529	14254.529	27	339844.141	9.9931778	2528	
34	7017.387	9.8461754	1283	10.1538246	14250.319	26	349849.871	9.9934305	2528	
35	7019.459	9.8463036	1282	10.1536964	14246.112	25	359855.603	9.9936832	2528	
36	7021.530	9.8464318	1282	10.1535682	14241.909	24	369861.339	9.9939359	2528	
37	7023.601	9.8465599	1281	10.1534401	14237.710	23	379867.079	9.9941886	2528	
38	7025.671	9.8466879	1280	10.1533121	14233.514	22	389872.821	9.9944413	2528	
39	7027.741	9.8468158	1279	10.1531842	14229.323	21	399878.567	9.9946940	2528	
40	7029.810	9.8469436	1278	10.1530564	14225.134	20	409884.316	9.9949466	2528	
41	7031.879	9.8470714	1278	10.1529286	14220.950	19	419890.069	9.9951993	2528	
42	7033.947	9.8471991	1277	10.1528009	14216.769	18	429895.825	9.9954520	2528	
43	7036.014	9.8473267	1276	10.1526733	14212.592	17	439901.584	9.9957047	2528	
44	7038.081	9.8474543	1276	10.1525457	14208.418	16	449907.346	9.9959573	2528	
45	7040.147	9.8475817	1274	10.1524183	14204.248	15	459913.112	9.9962100	2528	
46	7042.213	9.8477091	1274	10.1522909	14200.082	14	469918.881	9.9964627	2528	
47	7044.278	9.8478365	1274	10.1521635	14195.915	13	479924.654	9.9967154	2528	
48	7046.342	9.8479637	1272	10.1520363	14191.761	12	489930.429	9.9969680	2528	
49	7048.406	9.8480909	1272	10.1519091	14187.605	11	499936.208	9.9972207	2528	
50	7050.469	9.8482180	1271	10.1517820	14183.454	10	509941.991	9.9974734	2528	
51	7052.532	9.8483450	1270	10.1516550	14179.305	9	519947.777	9.9977260	2528	
52	7054.594	9.8484720	1270	10.1515280	14175.161	8	529953.566	9.9979787	2528	
53	7056.655	9.8485989	1269	10.1514011	14171.020	7	539959.358	9.9982314	2528	
54	7058.716	9.8487257	1268	10.1512743	14166.883	6	549965.154	9.9984840	2528	
55	7060.776	9.8488524	1267	10.1511476	14162.749	5	559970.953	9.9987367	2528	
56	7062.835	9.8489791	1267	10.1510209	14158.619	4	569976.756	9.9989893	2528	
57	7064.894	9.8491057	1266	10.1508943	14154.493	3	579982.562	9.9992420	2528	
58	7066.953	9.8492322	1265	10.1507678	14150.370	2	589988.371	9.9994947	2528	
59	7069.011	9.8493586	1264	10.1506414	14146.251	1	599994.184	9.9997473	2528	
60	7071.068	9.8494850	1264	10.1505150	14142.136	0	600000.000	10.0000000	2528	
			Dit	L. Sec.	N. Sec.	15				Dit

		44	N. Sec.	L. Sec.	Dif.		
10.0151628	10355.303	60	013901.636	10.1430659	1220	9.8569341	7193.398
10.0149100	10349.277	59	113905.543	10.1431879	1221	9.8568121	7191.377
10.0146572	10343.254	58	213909.453	10.1433100	1222	9.8566900	7189.355
10.0144044	10337.231	57	313913.366	10.1434322	1223	9.8565678	7187.333
10.0141516	10331.210	56	413917.283	10.1435545	1224	9.8564455	7185.310
10.0138988	10325.208	55	513921.203	10.1436768	1225	9.8563232	7183.287
10.0136460	10319.199	54	613925.127	10.1437992	1226	9.8562008	7181.265
10.0133932	10313.195	53	713929.054	10.1439216	1227	9.8560784	7179.238
10.0131404	10307.194	52	813932.985	10.1440442	1228	9.8559558	7177.213
10.0128877	10301.196	51	913936.918	10.1441668	1229	9.8558332	7175.187
10.0126349	10295.203	50	1013940.856	10.1442894	1230	9.8557106	7173.161
10.0123821	10289.212	49	1113944.796	10.1444122	1231	9.8555878	7171.134
10.0121294	10283.226	48	1213948.740	10.1445350	1232	9.8554650	7169.106
10.0118766	10277.243	47	1313952.688	10.1446579	1233	9.8553421	7167.078
10.0116239	10271.263	46	1413956.639	10.1447808	1234	9.8552192	7165.049
10.0113711	10265.287	45	1513960.593	10.1449039	1235	9.8550961	7163.019
10.0111184	10259.315	44	1613964.551	10.1450270	1236	9.8549730	7160.989
10.0108656	10253.346	43	1713968.512	10.1451501	1237	9.8548499	7158.958
10.0106129	10247.381	42	1813972.477	10.1452734	1238	9.8547266	7156.927
10.0103601	10241.419	41	1913976.445	10.1453967	1239	9.8546033	7154.895
10.0101074	10235.461	40	2013980.416	10.1455201	1240	9.8544799	7152.863
10.0098547	10229.506	39	2113984.391	10.1456436	1241	9.8543564	7150.830
10.0096019	10223.555	38	2213988.369	10.1457671	1242	9.8542329	7148.796
10.0093492	10217.608	37	2313992.351	10.1458907	1243	9.8541093	7146.762
10.0090965	10211.664	36	2413996.336	10.1460144	1244	9.8539856	7144.727
10.0088438	10205.723	35	2514000.325	10.1461381	1245	9.8538619	7142.691
10.0085911	10199.786	34	2614004.317	10.1462619	1246	9.8537381	7140.655
10.0083384	10193.853	33	2714008.313	10.1463858	1247	9.8536142	7138.618
10.0080857	10187.923	32	2814012.312	10.1465098	1248	9.8534902	7136.581
10.0078330	10181.997	31	2914016.315	10.1466338	1249	9.8533662	7134.543
10.0075803	10176.074	30	3014020.321	10.1467579	1250	9.8532421	7132.505
10.0073276	10170.155	29	3114024.330	10.1468821	1251	9.8531179	7130.466
10.0070749	10164.239	28	3214028.343	10.1470064	1252	9.8529936	7128.426
10.0068222	10158.326	27	3314032.360	10.1471307	1253	9.8528693	7126.385
10.0065695	10152.417	26	3414036.380	10.1472551	1254	9.8527449	7124.344
10.0063168	10146.512	25	3514040.403	10.1473796	1255	9.8526204	7122.302
10.0060641	10140.610	24	3614044.430	10.1475041	1256	9.8524959	7120.260
10.0058114	10134.712	23	3714048.460	10.1476287	1257	9.8523713	7118.217
10.0055587	10128.817	22	3814052.494	10.1477534	1258	9.8522468	7116.174
10.0053060	10122.925	21	3914056.532	10.1478782	1259	9.8521218	7114.130
10.0050534	10117.037	20	4014060.573	10.1480030	1260	9.8519970	7112.086
10.0048007	10111.153	19	4114064.617	10.1481279	1261	9.8518721	7110.041
10.0045480	10105.272	18	4214068.665	10.1482529	1262	9.8517471	7107.995
10.0042953	10099.394	17	4314072.717	10.1483780	1263	9.8516220	7105.948
10.0040427	10093.520	16	4414076.772	10.1485031	1264	9.8514969	7103.901
10.0037900	10087.649	15	4514080.831	10.1486283	1265	9.8513717	7101.854
10.0035373	10081.782	14	4614084.893	10.1487535	1266	9.8512465	7099.806
10.0032846	10075.913	13	4714088.958	10.1488789	1267	9.8511211	7097.757
10.0030320	10070.058	12	4814093.028	10.1490043	1268	9.8509957	7095.707
10.0027793	10064.201	11	4914097.100	10.1491298	1269	9.8508702	7093.657
10.0025266	10058.347	10	5014101.177	10.1492554	1270	9.8507446	7091.607
10.0022740	10052.497	9	5114105.256	10.1493801	1271	9.8506190	7089.556
10.0020214	10046.651	8	5214109.340	10.1495067	1272	9.8504933	7087.504
10.0017686	10040.807	7	5314113.427	10.1496325	1273	9.8503675	7085.451
10.0015160	10034.968	6	5414117.517	10.1497583	1274	9.8502417	7083.398
10.0012633	10029.131	5	5514121.611	10.1498843	1275	9.8501157	7081.345
10.0010107	10023.298	4	5614125.709	10.1500103	1276	9.8499897	7079.291
10.0007580	10017.469	3	5714129.810	10.1501363	1277	9.8498639	7077.236
10.0005053	10011.642	2	5814133.915	10.1502625	1278	9.8497375	7075.180
10.0002527	10005.819	1	5914138.024	10.1503887	1279	9.8496113	7073.124
10.0000000	10000.000	0	6014142.136	10.1505150	1280	9.8494850	7071.068
L. Tan.	N. Tan.	45					

The End of the Table of Sines, Tangents, and Secants.

Deg. 0, 1, 2, 3.

A Table of Natural Veried

M	N. 0	N. 1	N. 2	N. 3	L. 0	L. 1	L. 2	L. 3	M
0	0.0000000	0.001523	0.006092	0.013705	0.0000000	6.1827137	6.7847406	7.1368680	0
1	0.0000001	0.001574	0.006194	0.013857	2.6264222	6.1970707	6.7919482	7.1416791	1
2	0.0000002	1.626	6.296	14.011	3.2284822	6.2111938	6.7990963	7.1464636	2
3	0.0000003	1.679	6.400	14.165	3.5806647	6.2250913	6.8061860	7.1512219	3
4	0.0000004	1.733	6.505	14.320	3.8305422	6.2387696	6.8132185	7.1559542	4
5	0.0000005	1.788	6.610	14.476	4.0243620	6.2522661	6.8201944	7.1606609	5
6	0.0000006	1.843	6.716	14.633	4.1837246	6.2654968	6.8271147	7.1653422	6
7	0.0000007	1.899	6.823	14.791	4.3166182	6.2785581	6.8339812	7.1699984	7
8	0.0000008	1.956	6.931	14.950	4.4326020	6.2914259	6.8407920	7.1746297	8
9	0.0000009	2.014	7.040	15.109	4.5349070	6.3041058	6.8475506	7.1792365	9
10	0.0000010	2.073	7.150	15.269	4.6264219	6.3166033	6.8542572	7.1838189	10
11	0.0000011	2.133	7.260	15.430	4.7092072	6.3289234	6.8609122	7.1883772	11
12	0.0000012	2.194	7.371	15.592	4.7847843	6.3410714	6.8675167	7.1929118	12
13	0.0000013	2.255	7.483	15.755	4.8543084	6.3530516	6.8740712	7.1974228	13
14	0.0000014	2.317	7.596	15.919	4.9186777	6.3648689	6.8805768	7.2019104	14
15	0.0000015	2.380	7.710	16.083	4.9786040	6.3765275	6.8870338	7.2063750	15
16	0.0000016	2.444	7.825	16.248	5.0346614	6.3880317	6.8934434	7.2108167	16
17	0.0000017	2.509	7.940	16.414	5.0873192	6.3993855	6.8998958	7.2152358	17
18	0.0000018	2.575	8.056	16.581	5.1369663	6.4105928	6.9063122	7.2196326	18
19	0.0000019	2.641	8.173	16.749	5.1839282	6.4216574	6.9123926	7.2240071	19
20	0.0000020	2.708	8.294	16.918	5.2284810	6.4325816	6.9181833	7.2283597	20
21	0.0000021	2.776	8.410	17.088	5.2708594	6.4433603	6.9248004	7.2326902	21
22	0.0000022	2.845	8.530	17.258	5.3112661	6.4540294	6.9309372	7.2370000	22
23	0.0000023	2.915	8.651	17.429	5.3498762	6.4646573	6.9370316	7.2412821	23
24	0.0000024	2.986	8.772	17.601	5.3868430	6.4749592	6.9430837	7.2455551	24
25	0.0000025	3.057	8.894	17.774	5.4223002	6.4851280	6.9490938	7.2498013	25
26	0.0000026	3.129	9.017	17.948	5.4563669	6.4953965	6.9550627	7.2540267	26
27	0.0000027	3.202	9.141	18.123	5.4891474	6.5054376	6.9609886	7.2582317	27
28	0.0000028	3.276	9.266	18.299	5.5207359	6.5153639	6.9668786	7.2624164	28
29	0.0000029	3.351	9.392	18.475	5.5512156	6.5251780	6.9727272	7.2665810	29
30	0.0000030	3.427	9.518	18.652	5.5806620	6.5348825	6.9785359	7.2707283	30
31	0.0000031	3.504	9.645	18.830	5.6091426	6.5444797	6.9843062	7.2748508	31
32	0.0000032	3.581	9.773	19.009	5.6367191	6.5539720	6.9900387	7.2789563	32
33	0.0000033	3.659	9.902	19.189	5.6634468	6.5633617	6.9957334	7.2830425	33
34	0.0000034	3.738	10.032	19.369	5.6893765	6.5726509	7.0013911	7.2871091	34
35	0.0000035	3.818	10.163	19.550	5.7145546	6.5818418	7.0069920	7.2911176	35
36	0.0000036	3.899	10.294	19.732	5.7390223	6.5909365	7.0125969	7.2951869	36
37	0.0000037	3.981	10.427	19.915	5.7628214	6.5999368	7.0181460	7.2991975	37
38	0.0000038	4.063	10.559	20.099	5.7859350	6.6088450	7.0236600	7.3031897	38
39	0.0000039	4.146	10.693	20.284	5.8085468	6.6176626	7.0291390	7.3071636	39
40	0.0000040	4.230	10.828	20.470	5.8305373	6.6263916	7.0345838	7.3111194	40
41	0.0000041	4.315	10.964	20.657	5.8519848	6.6350337	7.0399946	7.3150572	41
42	0.0000042	4.401	11.101	20.844	5.8729154	6.6435907	7.0453719	7.3189773	42
43	0.0000043	4.488	11.239	21.032	5.8933534	6.6520642	7.0507160	7.3228797	43
44	0.0000044	4.576	11.377	21.221	5.9133217	6.6604558	7.0560277	7.3267646	44
45	0.0000045	4.664	11.516	21.411	5.9328412	6.6687671	7.0613068	7.3306322	45
46	0.0000046	4.753	11.656	21.602	5.9519314	6.6769996	7.0665540	7.3344827	46
47	0.0000047	4.843	11.797	21.793	5.9706112	6.6851548	7.0717698	7.3383161	47
48	0.0000048	4.934	11.939	21.985	5.9888977	6.6932340	7.0769544	7.3421327	48
49	0.0000049	5.026	12.082	22.178	6.0068070	6.7012388	7.0821082	7.3459326	49
50	0.0000050	5.119	12.225	22.372	6.0243546	6.7091706	7.0872316	7.3497159	50
51	0.0000051	5.213	12.369	22.567	6.0415546	6.7170304	7.0923238	7.3534828	51
52	0.0000052	5.307	12.514	22.763	6.0584206	6.7248199	7.0973885	7.3572334	52
53	0.0000053	5.402	12.660	22.960	6.0749654	6.7325400	7.1024228	7.3609678	53
54	0.0000054	5.498	12.807	23.157	6.0912008	6.7401921	7.1074280	7.3646863	54
55	0.0000055	5.595	12.955	23.355	6.1071384	6.7477774	7.1124044	7.3683888	55
56	0.0000056	5.693	13.103	23.554	6.1227887	6.7552970	7.1173527	7.3720757	56
57	0.0000057	5.792	13.252	23.754	6.1381620	6.7627520	7.1222728	7.3757469	57
58	0.0000058	5.891	13.402	23.955	6.1532679	6.7701436	7.1271652	7.3794027	58
59	0.0000059	5.991	13.553	24.157	6.1681156	6.7774728	7.1320302	7.3830431	59
60	0.0000060	6.092	13.705	24.360	6.1827137	6.7847406	7.1368680	7.3866683	60

Sines, and their Logarithms.

Deg. 89, 88, 87, 86

M	L. 89	L. 88	L. 87	L. 86	N. 89	N. 88	N. 87	N. 86	M
60	100000000	9.9923366	9.9845725	9.9766544	100000000	9825.476	9651.005	9476.640	60
59	9.9998736	9.9922250	9.9844417	9.9765212	9997.091	9822.567	9648.098	9473.735	59
58	9.9997473	9.9920964	9.9843108	9.9763881	9994.182	9819.659	9645.191	9470.830	58
57	9.9996208	9.9919677	9.9841799	9.9762548	9991.273	9816.750	9642.284	9467.925	57
56	9.9994944	9.9918391	9.9840490	9.9761216	9988.364	9813.842	9639.377	9465.020	56
55	9.9993679	9.9917103	9.9839179	9.9759883	9985.456	9810.934	9636.470	9462.116	55
54	9.9992414	9.9915816	9.9837869	9.9758550	9982.547	9808.025	9633.563	9459.211	54
53	9.9991148	9.9914528	9.9836559	9.9757216	9979.638	9805.117	9630.656	9456.306	53
52	9.9989882	9.9913240	9.9835248	9.9755882	9976.729	9802.208	9627.749	9453.402	52
51	9.9988615	9.9911951	9.9833936	9.9754547	9973.820	9799.300	9624.842	9450.497	51
50	9.9987348	9.9910662	9.9832624	9.9753212	9970.912	9796.392	9621.936	9447.592	50
49	9.9986081	9.9909373	9.9831312	9.9751877	9968.003	9793.483	9619.029	9444.688	49
48	9.9984814	9.9908082	9.9830000	9.9750541	9965.094	9790.575	9616.122	9441.784	48
47	9.9983546	9.9906792	9.9828688	9.9749205	9962.185	9787.667	9613.215	9438.880	47
46	9.9982278	9.9905501	9.9827373	9.9747868	9959.276	9784.759	9610.308	9435.976	46
45	9.9981009	9.9904210	9.9826059	9.9746531	9956.368	9781.851	9607.402	9433.072	45
44	9.9979740	9.9902919	9.9824745	9.9745194	9953.459	9778.943	9604.495	9430.168	44
43	9.9978470	9.9901627	9.9823431	9.9743856	9950.550	9776.035	9601.588	9427.264	43
42	9.9977201	9.9900335	9.9822116	9.9742519	9947.641	9773.127	9598.682	9424.360	42
41	9.9975930	9.9899043	9.9820801	9.9741180	9944.732	9770.219	9595.775	9421.456	41
40	9.9974660	9.9897750	9.9819485	9.9739841	9941.823	9767.311	9592.869	9418.552	40
39	9.9973389	9.9896456	9.9818169	9.9738502	9938.914	9764.403	9589.962	9415.648	39
38	9.9972118	9.9895163	9.9816853	9.9737162	9936.005	9761.495	9587.056	9412.744	38
37	9.9970846	9.9893869	9.9815536	9.9735822	9933.096	9758.587	9584.149	9409.840	37
36	9.9969574	9.9892575	9.9814219	9.9734482	9930.187	9755.679	9581.243	9406.936	36
35	9.9968302	9.9891280	9.9812901	9.9733141	9927.279	9752.771	9578.337	9404.033	35
34	9.9967029	9.9889985	9.9811583	9.9731800	9924.370	9749.863	9575.430	9401.129	34
33	9.9965756	9.9888689	9.9810265	9.9730458	9921.461	9746.955	9572.524	9398.225	33
32	9.9964483	9.9887393	9.9808946	9.9729117	9918.552	9744.047	9569.618	9395.322	32
31	9.9963209	9.9886097	9.9807627	9.9727774	9915.643	9741.139	9566.712	9392.418	31
30	9.9961935	9.9884801	9.9806308	9.9726431	9912.735	9738.231	9563.806	9389.515	30
29	9.9960660	9.9883503	9.9804988	9.9725088	9909.826	9735.323	9560.900	9386.611	29
28	9.9959385	9.9882206	9.9803668	9.9723745	9906.917	9732.415	9557.994	9383.708	28
27	9.9958110	9.9880908	9.9802347	9.9722401	9904.008	9729.507	9555.088	9380.804	27
26	9.9956834	9.9879610	9.9801026	9.9721056	9901.099	9726.599	9552.182	9377.901	26
25	9.9955558	9.9878311	9.9799704	9.9719712	9898.191	9723.692	9549.276	9375.000	25
24	9.9954282	9.9877013	9.9798383	9.9718367	9895.282	9720.784	9546.370	9372.095	24
23	9.9953005	9.9875713	9.9797060	9.9717021	9892.373	9717.876	9543.464	9369.192	23
22	9.9951728	9.9874414	9.9795738	9.9715675	9889.464	9714.968	9540.558	9366.289	22
21	9.9950450	9.9873114	9.9794415	9.9714329	9886.555	9712.060	9537.652	9363.386	21
20	9.9949172	9.9871813	9.9793092	9.9712982	9883.647	9709.153	9534.747	9360.483	20
19	9.9947894	9.9870512	9.9791768	9.9711635	9880.738	9706.245	9531.841	9357.580	19
18	9.9946615	9.9869211	9.9790444	9.9710288	9877.829	9703.337	9528.935	9354.677	18
17	9.9945336	9.9867910	9.9789119	9.9708940	9874.921	9700.430	9526.030	9351.774	17
16	9.9944057	9.9866608	9.9787795	9.9707592	9872.012	9697.522	9523.124	9348.871	16
15	9.9942777	9.9865305	9.9786469	9.9706243	9869.104	9694.615	9520.219	9345.969	15
14	9.9941497	9.9864003	9.9785144	9.9704894	9866.195	9691.707	9517.313	9343.066	14
13	9.9940216	9.9862700	9.9783817	9.9703545	9863.286	9688.800	9514.408	9340.162	13
12	9.9938936	9.9861396	9.9782491	9.9702195	9860.378	9685.892	9511.502	9337.261	12
11	9.9937654	9.9860092	9.9781164	9.9700845	9857.469	9682.985	9508.595	9334.358	11
10	9.9936373	9.9858788	9.9779837	9.9699494	9854.561	9680.079	9505.692	9331.456	10
9	9.9935091	9.9857484	9.9778509	9.9698143	9851.652	9677.170	9502.786	9328.553	9
8	9.9933808	9.9856179	9.9777182	9.9696792	9848.743	9674.263	9499.881	9325.651	8
7	9.9932526	9.9854873	9.9775853	9.9695440	9845.835	9671.355	9496.976	9322.749	7
6	9.9931243	9.9853568	9.9774525	9.9694088	9842.926	9668.448	9494.071	9319.847	6
5	9.9929959	9.9852261	9.9773195	9.9692735	9840.018	9665.541	9491.166	9316.945	5
4	9.9928675	9.9850955	9.9771866	9.9691382	9837.109	9662.633	9488.260	9314.043	4
3	9.9927391	9.9849648	9.9770536	9.9690030	9834.201	9659.726	9485.355	9311.141	3
2	9.9926106	9.9848341	9.9769206	9.9688675	9831.292	9656.818	9482.450	9308.239	2
1	9.9924821	9.9847033	9.9767875	9.9687321	9828.384	9653.912	9479.545	9305.337	1
0	9.9923536	9.9845725	9.9766544	9.9685967	9825.476	9651.005	9476.640	9302.435	0

Deg. 4, 5, 6, 7.

A Table of Natural Verfed

M	N. 4	N. 5	N. 6	N. 7	L. 4	L. 5	L. 6	L. 7	M
0	0024.360	0038.053	0054.781	0074.539	7.3866683	7.5803891	7.7386303	7.8722808	0
1	0024.563	0038.307	0055.086	0074.894	7.3902785	7.5832777	7.7410375	7.8744436	1
2	24.767	38.562	55.391	75.250	7.3938716	7.5861568	7.7434380	7.8765017	2
3	24.972	38.817	55.697	75.607	7.3974540	7.5890263	7.7458319	7.8785550	3
4	25.178	39.074	56.004	75.964	7.4010196	7.5918864	7.7482192	7.8806033	4
5	25.385	39.331	56.312	76.322	7.4045706	7.5947322	7.7505999	7.8826469	5
6	25.592	39.589	56.621	76.681	7.4081071	7.5975783	7.7529742	7.8846856	6
7	0025.800	0039.848	0056.631	0077.041	7.4116293	7.6004103	7.7553419	7.8867196	7
8	26.009	40.108	57.241	76.681	7.4151372	7.6032331	7.7577021	7.8887487	8
9	26.219	40.369	57.552	77.764	7.4186311	7.6060468	7.7600580	7.8907784	9
10	26.430	40.630	57.864	78.126	7.4221109	7.6088513	7.7624064	7.8927921	10
11	26.642	40.893	58.177	78.484	7.4255767	7.6116468	7.7647485	7.8948023	11
12	26.855	41.156	58.491	78.853	7.4290288	7.6144333	7.7670843	7.8968181	12
13	0027.059	0041.420	0058.806	0079.218	7.4324672	7.6172109	7.7694138	7.8988238	13
14	27.283	41.685	59.121	79.584	7.4358921	7.6199796	7.7717371	7.9008248	14
15	27.498	41.951	59.437	79.951	7.4393034	7.6227395	7.7740541	7.9028211	15
16	27.714	42.217	59.754	80.318	7.4417015	7.6254906	7.7763649	7.9048130	16
17	27.931	42.485	60.072	80.686	7.4440862	7.6282330	7.7786696	7.9068002	17
18	28.149	42.753	60.391	81.055	7.4464578	7.6309668	7.7809682	7.9087829	18
19	0028.367	0043.022	0060.710	0081.425	7.4488163	7.6336920	7.7832607	7.9107610	19
20	28.586	43.292	61.030	81.796	7.4511619	7.6364086	7.7855472	7.9127340	20
21	28.806	43.563	61.351	82.168	7.4534946	7.6391167	7.7878276	7.9147038	21
22	29.027	43.835	61.673	82.541	7.4562816	7.6418164	7.7901020	7.9166682	22
23	29.249	44.107	61.996	82.914	7.4586129	7.6445078	7.7923705	7.9186286	23
24	29.472	44.380	62.320	83.288	7.4609416	7.6471908	7.7946331	7.9205844	24
25	0029.696	0044.655	0062.645	0083.663	7.4726987	7.6498555	7.7968897	7.9225358	25
26	29.921	44.930	62.971	84.039	7.4759688	7.6525320	7.7991405	7.9244827	26
27	30.146	45.205	63.297	84.416	7.4792265	7.6551903	7.8013855	7.9264253	27
28	30.372	45.482	63.624	84.794	7.4824719	7.6578404	7.8036246	7.9283636	28
29	30.599	45.760	63.952	85.172	7.4857052	7.6604825	7.8058580	7.9302975	29
30	30.827	46.038	64.281	85.551	7.4889265	7.6631166	7.8080856	7.9322271	30
31	0031.056	0046.317	0064.611	0085.931	7.4921359	7.6657427	7.8103076	7.9341523	31
32	31.285	46.597	64.942	86.312	7.4953353	7.6683608	7.8123237	7.9360734	32
33	31.515	46.878	65.273	86.694	7.4985193	7.6709711	7.8143343	7.9379901	33
34	31.746	47.160	65.605	87.077	7.5016934	7.6735735	7.8163392	7.9399027	34
35	31.978	47.443	65.938	87.460	7.5048560	7.6761682	7.8183386	7.9418110	35
36	32.211	47.726	66.272	87.844	7.5080071	7.6787550	7.8203322	7.9437151	36
37	0032.445	0048.010	0066.608	0088.229	7.5111468	7.6813342	7.8223205	7.9456150	37
38	32.680	48.295	66.943	88.615	7.5142751	7.6839058	7.8243032	7.9475107	38
39	32.915	48.581	67.279	89.002	7.5173922	7.6864697	7.8262804	7.9494023	39
40	33.151	48.868	67.616	89.391	7.5204982	7.6890260	7.8282522	7.9512898	40
41	33.388	49.156	67.954	89.779	7.5235930	7.6915749	7.8302218	7.9531732	41
42	33.626	49.444	68.293	90.168	7.5266769	7.6941162	7.8321947	7.9550525	42
43	0033.865	0049.734	0068.633	0090.558	7.5297498	7.6966502	7.8341619	7.9569276	43
44	33.405	50.024	68.974	90.949	7.5328119	7.6991767	7.8361285	7.9587988	44
45	33.645	50.315	69.315	91.341	7.5358632	7.7016959	7.8380899	7.9606663	45
46	33.886	50.607	69.657	91.734	7.5389038	7.7042078	7.8400465	7.9625302	46
47	34.128	50.900	70.000	92.124	7.5419338	7.7067124	7.8419987	7.9643880	47
48	34.371	51.193	70.344	92.521	7.5449532	7.7092098	7.8439457	7.9662431	48
49	0035.315	0051.487	0070.689	0092.916	7.5479021	7.7117001	7.8458956	7.9680942	49
50	35.560	51.783	71.035	93.312	7.5509607	7.7141832	7.8478415	7.9699414	50
51	35.806	52.079	71.382	93.709	7.5539489	7.7166592	7.8497855	7.9717846	51
52	36.052	52.375	71.729	94.107	7.5569268	7.7191281	7.8517286	7.9736239	52
53	36.299	52.673	72.077	94.506	7.5598946	7.7215900	7.8536719	7.9754593	53
54	36.547	52.972	72.426	94.905	7.5628523	7.7240405	7.8556150	7.9772908	54
55	0036.796	0053.271	0072.776	0095.305	7.5657997	7.7264930	7.8575581	7.9791184	55
56	37.046	53.572	73.127	95.706	7.5687373	7.7289341	7.8594982	7.9809422	56
57	37.297	53.873	73.479	96.108	7.5716650	7.7313683	7.8614361	7.9827621	57
58	37.548	54.175	73.831	96.511	7.5745828	7.7337965	7.8633727	7.9845782	58
59	37.800	54.477	74.184	96.915	7.5774908	7.7362154	7.8653081	7.9863905	59
60	38.053	54.781	74.539	97.319	7.5803891	7.7386303	7.8672330	7.9882000	60

Sines, and their Logarithms.

Deg. 85, 84, 83, 82

M	L. 85	L. 84	L. 83	L. 82	N. 85	N. 84	N. 83	N. 82	M
60	9.9685967	9.9603967	9.9520518	9.9435591	9.902.435	9.9128.543	8954.715	8781.307	60
59	9.9684611	9.9602589	9.9519114	9.9434163	9.9299.533	9.9125.545	8951.322	8778.420	59
58	9.9683256	9.9601209	9.9517711	9.9432735	9.9296.631	9.9122.647	8948.329	8775.533	58
57	9.9681900	9.9599829	9.9516307	9.9431306	9.9293.730	9.9119.750	8945.036	8772.646	57
56	9.9680544	9.9598449	9.9514902	9.9429876	9.9290.828	9.9116.852	8942.143	8769.759	56
55	9.9679188	9.9597068	9.9513497	9.9428446	9.9287.927	9.9113.955	8940.251	8766.872	55
54	9.9677831	9.9595688	9.9512092	9.9427016	9.9285.025	9.9111.057	8937.358	8763.985	54
53	9.9676474	9.9594306	9.9510686	9.9425586	9.9282.124	9.9108.160	8934.466	8761.099	53
52	9.9675116	9.9592925	9.9509280	9.9424155	9.9279.223	9.9105.263	8931.574	8758.212	52
51	9.9673758	9.9591542	9.9507874	9.9422723	9.9276.322	9.9102.366	8928.682	8755.326	51
50	9.9672399	9.9590160	9.9506467	9.9421291	9.9273.421	9.9099.469	8925.790	8752.440	50
49	9.9671040	9.9588777	9.9505059	9.9419859	9.9270.520	9.9096.572	8922.898	8749.554	49
48	9.9669681	9.9587394	9.9503652	9.9418426	9.9267.619	9.9093.675	8920.006	8746.668	48
47	9.9668321	9.9586010	9.9502243	9.9416993	9.9264.718	9.9090.778	8917.114	8743.782	47
46	9.9666961	9.9584626	9.9500835	9.9415560	9.9261.817	9.9087.881	8914.222	8740.896	46
45	9.9665601	9.9583241	9.9499426	9.9414125	9.9258.916	9.9084.984	8911.331	8738.010	45
44	9.9664240	9.9581857	9.9498016	9.9412691	9.9256.015	9.9082.087	8908.439	8735.124	44
43	9.9662879	9.9580471	9.9496606	9.9411256	9.9253.114	9.9079.191	8905.548	8732.239	43
42	9.9661517	9.9579086	9.9495196	9.9409822	9.9250.213	9.9076.294	8902.656	8729.353	42
41	9.9660155	9.9577699	9.9493785	9.9408385	9.9247.312	9.9073.398	8899.765	8726.468	41
40	9.9658792	9.9576312	9.9492375	9.9406949	9.9244.412	9.9070.502	8896.874	8723.583	40
39	9.9657430	9.9574926	9.9490963	9.9405513	9.9241.511	9.9067.605	8893.983	8720.698	39
38	9.9656067	9.9573539	9.9489551	9.9404076	9.9238.611	9.9064.709	8891.092	8717.813	38
37	9.9654703	9.9572151	9.9488139	9.9402638	9.9235.710	9.9061.813	8888.201	8714.928	37
36	9.9653339	9.9570763	9.9486716	9.9401201	9.9232.810	9.9058.917	8885.310	8712.043	36
35	9.9651974	9.9569374	9.9485313	9.9399763	9.9229.910	9.9056.021	8882.420	8709.159	35
34	9.9650610	9.9567985	9.9483899	9.9398324	9.9227.009	9.9053.125	8879.529	8706.274	34
33	9.9649244	9.9566596	9.9482485	9.9396885	9.9224.109	9.9050.229	8876.639	8703.390	33
32	9.9647879	9.9565206	9.9481071	9.9395445	9.9221.205	9.9047.333	8873.748	8700.505	32
31	9.9646513	9.9563816	9.9479656	9.9394005	9.9218.309	9.9044.437	8870.858	8697.622	31
30	9.9645146	9.9562425	9.9478241	9.9392565	9.9215.409	9.9041.542	8867.968	8694.738	30
29	9.9643779	9.9561034	9.9476825	9.9391124	9.9212.509	9.9038.646	8865.078	8691.854	29
28	9.9642412	9.9559643	9.9475409	9.9389683	9.9209.609	9.9035.751	8862.188	8688.970	28
27	9.9641044	9.9558251	9.9473993	9.9388241	9.9206.709	9.9032.856	8859.298	8686.086	27
26	9.9639676	9.9556859	9.9472576	9.9386800	9.9203.808	9.9029.961	8856.408	8683.202	26
25	9.9638308	9.9555466	9.9471159	9.9385357	9.9200.910	9.9027.066	8853.518	8680.319	25
24	9.9636939	9.9554072	9.9469741	9.9383914	9.9198.010	9.9024.171	8850.628	8677.436	24
23	9.9635570	9.9552680	9.9468323	9.9382471	9.9195.111	9.9021.276	8847.739	8674.553	23
22	9.9634202	9.9551286	9.9466904	9.9381027	9.9192.211	9.9018.381	8844.849	8671.670	22
21	9.9632833	9.9549891	9.9465485	9.9379583	9.9189.312	9.9015.486	8841.960	8668.787	21
20	9.9631460	9.9548497	9.9464066	9.9378139	9.9186.413	9.9012.592	8839.071	8665.904	20
19	9.9630088	9.9547102	9.9462646	9.9376693	9.9183.514	9.9009.697	8836.182	8663.021	19
18	9.9628718	9.9545706	9.9461226	9.9375248	9.9180.615	9.9006.802	8833.293	8660.138	18
17	9.9627346	9.9544310	9.9459805	9.9373802	9.9177.716	9.9003.908	8830.404	8657.256	17
16	9.9625974	9.9542914	9.9458385	9.9372356	9.9174.817	9.9001.013	8827.515	8654.373	16
15	9.9624601	9.9541517	9.9456963	9.9370909	9.9171.918	9.9998.119	8824.626	8651.491	15
14	9.9623226	9.9540120	9.9455541	9.9369462	9.9169.019	9.9995.225	8821.737	8648.608	14
13	9.9621851	9.9538723	9.9454119	9.9368015	9.9166.120	9.9992.331	8818.848	8645.726	13
12	9.9620482	9.9537325	9.9452696	9.9366567	9.9163.222	9.9989.437	8815.960	8642.844	12
11	9.9619108	9.9535925	9.9451273	9.9365118	9.9160.323	9.9986.543	8813.072	8639.962	11
10	9.9617733	9.9534528	9.9449850	9.9363670	9.9157.424	9.9983.649	8810.184	8637.080	10
9	9.9616358	9.9533128	9.9448425	9.9362220	9.9154.526	9.9980.755	8807.296	8634.198	9
8	9.9614983	9.9531729	9.9447001	9.9360771	9.9151.628	9.9977.861	8804.408	8631.317	8
7	9.9613607	9.9530329	9.9445576	9.9359321	9.9148.729	9.9974.968	8801.520	8628.436	7
6	9.9612232	9.9528929	9.9444151	9.9357870	9.9145.831	9.9972.074	8798.632	8625.554	6
5	9.9610855	9.9527528	9.9442726	9.9356419	9.9142.933	9.9969.181	8795.745	8622.673	5
4	9.9609478	9.9526127	9.9441300	9.9354968	9.9140.035	9.9966.287	8792.857	8619.792	4
3	9.9608101	9.9524725	9.9439873	9.9353516	9.9137.137	9.9963.394	8789.969	8616.911	3
2	9.9606723	9.9523323	9.9438446	9.9352064	9.9134.239	9.9960.501	8787.082	8614.030	2
1	9.9605345	9.9521920	9.9437019	9.9350611	9.9131.341	9.9957.608	8784.194	8611.149	1
0	9.9603967	9.9520518	9.9435591	9.9349158	9.9128.443	8954.715	8781.307	8608.269	0

Deg. 8, 9, 10, 11.

A Table of Natural Verfed

M	N. 8	N. 9	N. 10	N. 11	L. 8	L. 9	L. 10	L. 11	M
0	0097.319	0123.117	0151.922	0183.728	7.9881990	8.09023166	8.1816220	8.2641757	0
1	0097.724	0123.573	0152.428	0184.284	7.9900038	8.0919203	8.1830648	8.2654867	1
2	98.130	124.029	152.934	184.840	7.9918047	8.0935210	8.1845051	8.2667957	2
3	98.537	124.486	153.441	185.397	7.9936020	8.0951188	8.1859421	8.2681028	3
4	98.935	124.944	153.949	185.955	7.9953955	8.0967136	8.1873786	8.2694078	4
5	99.354	125.403	154.450	186.514	7.9971853	8.0983055	8.1888118	8.2707169	5
6	99.763	125.863	154.968	187.074	7.9989713	8.0998944	8.1902126	8.2720119	6
7	0100.173	0126.323	0155.479	0187.634	8.0007537	8.1014804	8.1916710	8.2733111	7
8	100.584	126.784	155.990	188.195	8.0025325	8.1030635	8.1930971	8.2746082	8
9	100.996	127.246	156.502	188.757	8.0043076	8.1046437	8.1945208	8.2759035	9
10	101.409	127.709	157.015	189.320	8.0060790	8.1062211	8.1959421	8.2771967	10
11	101.823	128.173	157.529	189.884	8.0078468	8.1077955	8.1973611	8.2784880	11
12	102.238	128.638	158.044	190.449	8.0096110	8.1093671	8.1987778	8.2797774	12
13	0102.653	0129.103	0158.560	0191.014	8.0113716	8.1109358	8.2001921	8.2810649	13
14	103.069	129.569	159.076	191.580	8.0131287	8.1125017	8.2016042	8.2823504	14
15	103.486	130.036	159.593	192.147	8.0148822	8.1140647	8.2030139	8.2836341	15
16	103.904	130.544	160.111	192.715	8.0166321	8.1156249	8.2044213	8.2849118	16
17	104.323	130.973	160.630	193.284	8.0183785	8.1171823	8.2058264	8.2861956	17
18	104.743	131.443	161.150	193.853	8.0201213	8.1187369	8.2072293	8.2874735	18
19	0105.163	0131.915	0161.671	0194.423	8.0218607	8.1202887	8.2086298	8.2887495	19
20	105.584	132.384	162.192	194.994	8.0235965	8.1218377	8.2100281	8.2900236	20
21	106.006	132.856	162.714	195.566	8.0253289	8.1233840	8.2114241	8.2912958	21
22	106.429	133.329	163.237	196.139	8.0270578	8.1249279	8.2128179	8.2925661	22
23	106.853	133.803	163.761	196.713	8.0287833	8.1264681	8.2142094	8.2938346	23
24	107.277	134.278	164.286	197.288	8.0305053	8.1280061	8.2155987	8.2951012	24
25	0107.702	0134.754	0164.811	0197.863	8.0322239	8.1295413	8.2169857	8.2963660	25
26	108.128	135.230	165.337	198.439	8.0339391	8.1310738	8.2183705	8.2976289	26
27	108.555	135.707	165.864	199.016	8.0356508	8.1326037	8.2197531	8.2988899	27
28	108.983	136.185	166.392	199.594	8.0373592	8.1341307	8.2211334	8.3001491	28
29	109.412	136.664	166.921	200.174	8.0390643	8.1356551	8.2225116	8.3014064	29
30	109.841	137.144	167.451	200.753	8.0407659	8.1371768	8.2238875	8.3026619	30
31	0110.271	0137.624	0167.981	0201.333	8.0424642	8.1386958	8.2252613	8.3039156	31
32	110.702	138.105	168.512	201.914	8.0441592	8.1402121	8.2266329	8.3051685	32
33	111.134	138.587	169.044	202.496	8.0458509	8.1417258	8.2280023	8.3064175	33
34	111.567	139.070	169.577	203.079	8.0475323	8.1432368	8.2293695	8.3076657	34
35	111.999	139.554	170.111	203.663	8.0492243	8.1447452	8.2307345	8.3089122	35
36	112.436	140.039	170.646	204.247	8.0509061	8.1462510	8.2320974	8.3101568	36
37	0112.872	0140.525	0171.182	0204.832	8.0525847	8.1477541	8.2334581	8.3113996	37
38	113.308	141.011	171.718	205.418	8.0542599	8.1492546	8.2348167	8.3126406	38
39	113.745	141.498	172.255	206.005	8.0559319	8.1507525	8.2361732	8.3138798	39
40	114.183	141.986	172.793	206.593	8.0576007	8.1522478	8.2375277	8.3151172	40
41	114.622	142.475	173.332	207.182	8.0592663	8.1537405	8.2388797	8.3163529	41
42	115.062	142.965	173.872	207.772	8.0609286	8.1552307	8.2402297	8.3175868	42
43	0115.502	0143.456	0174.413	0208.362	8.0625878	8.1567182	8.2415737	8.3188189	43
44	115.943	143.947	174.954	208.953	8.0642438	8.1582032	8.2429235	8.3200493	44
45	116.385	144.439	175.496	209.545	8.0658966	8.1596857	8.2442673	8.3212779	45
46	116.828	144.932	176.039	210.138	8.0675463	8.1611656	8.2456089	8.3225047	46
47	117.272	145.426	176.583	210.732	8.0691923	8.1626430	8.2469485	8.3237298	47
48	117.717	145.921	177.128	211.326	8.0708362	8.1641178	8.2482860	8.3249532	48
49	0118.162	0146.417	0177.673	0211.921	8.0724764	8.1655902	8.2496214	8.3261745	49
50	118.608	146.913	178.219	212.517	8.0741136	8.1670600	8.2509547	8.3273947	50
51	119.055	147.410	178.766	213.114	8.0757476	8.1685273	8.2522860	8.3286128	51
52	119.503	147.908	179.314	213.712	8.0773786	8.1699921	8.2536152	8.3298292	52
53	119.952	148.407	179.863	214.311	8.0790065	8.1714545	8.2549424	8.3310437	53
54	120.402	148.907	180.413	214.910	8.0806313	8.1729144	8.2562675	8.3322569	54
55	0120.852	0149.407	0180.963	0215.510	8.0822531	8.1743717	8.2575906	8.3334682	55
56	121.303	149.908	181.514	216.111	8.0838718	8.1758267	8.2589117	8.3346778	56
57	121.755	150.410	182.066	216.713	8.0854976	8.1772792	8.2602307	8.3358857	57
58	122.208	150.913	182.619	217.316	8.0871002	8.1787292	8.2615477	8.3370918	58
59	122.662	151.417	183.173	217.920	8.0887099	8.1801768	8.2628626	8.3382963	59
60	123.117	151.922	183.728	218.524	8.0903166	8.1816220	8.2641757	8.3394991	60

Sines, and their Logarithms.

Deg. 81, 80, 79, 78

M	L. 81	L. 80	L. 79	L. 78	N. 81	N. 80	N. 79	N. 78	M
60	9.9349158	9.9261188	9.9171650	9.9080510	8608.269	8435.655	8263.418	8091.910	60
59	9.9347705	9.9259709	9.9170144	9.9078977	8605.388	8432.782	8260.653	8089.055	59
58	9.9346251	9.9258229	9.9168638	9.9077445	8602.508	8429.909	8257.789	8086.200	58
57	9.9344756	9.9256749	9.9167131	9.9075911	8599.627	8427.036	8254.925	8083.345	57
56	9.9343342	9.9255268	9.9165624	9.9074377	8596.747	8424.163	8252.061	8080.490	56
55	9.9341886	9.9253787	9.9164116	9.9072842	8593.867	8421.291	8249.197	8077.635	55
54	9.9340431	9.9252306	9.9162609	9.9071307	8590.987	8418.419	8246.333	8074.780	54
53	9.9338975	9.9250823	9.9161100	9.9069771	8588.107	8415.547	8243.469	8071.926	53
52	9.9337526	9.9249341	9.9159591	9.9068236	8585.228	8412.675	8240.606	8069.072	52
51	9.9336066	9.9247858	9.9158082	9.9066699	8582.348	8409.803	8237.742	8066.218	51
50	9.9334604	9.9246375	9.9156572	9.9065163	8579.469	8406.931	8234.879	8063.364	50
49	9.9333146	9.9244891	9.9155062	9.9063625	8576.590	8404.059	8232.016	8060.510	49
48	9.9331688	9.9243407	9.9153551	9.9062087	8573.711	8401.188	8229.153	8057.656	48
47	9.9330229	9.9241922	9.9152040	9.9060549	8570.832	8398.316	8226.290	8054.803	47
46	9.9328771	9.9240437	9.9150528	9.9059011	8567.953	8395.445	8223.427	8051.950	46
45	9.9327311	9.9238956	9.9149016	9.9057471	8565.074	8392.574	8220.565	8049.097	45
44	9.9325851	9.9237466	9.9147504	9.9055932	8562.195	8389.703	8217.702	8046.244	44
43	9.9324391	9.9235979	9.9145991	9.9054392	8559.316	8386.832	8214.840	8043.391	43
42	9.9322930	9.9234493	9.9144478	9.9052851	8556.438	8383.962	8211.978	8040.538	42
41	9.9321469	9.9233005	9.9142964	9.9051310	8553.559	8381.091	8209.116	8037.686	41
40	9.9320007	9.9231518	9.9141450	9.9049769	8550.681	8378.221	8206.254	8034.834	40
39	9.9318545	9.9230030	9.9139935	9.9048227	8547.803	8375.351	8203.392	8031.982	39
38	9.9317083	9.9228541	9.9138420	9.9046685	8544.925	8372.481	8200.531	8029.130	38
37	9.9315620	9.9227052	9.9136904	9.9045142	8542.047	8369.611	8197.669	8026.278	37
36	9.9314156	9.9225563	9.9135388	9.9043599	8539.169	8366.741	8194.808	8023.426	36
35	9.9312692	9.9224073	9.9133871	9.9042055	8536.292	8363.871	8191.946	8020.575	35
34	9.9311228	9.9222583	9.9132355	9.9040511	8533.414	8361.001	8189.085	8017.724	34
33	9.9309764	9.9221092	9.9130837	9.9038966	8530.537	8358.132	8186.226	8014.873	33
32	9.9308299	9.9219601	9.9129319	9.9037421	8527.660	8355.262	8183.368	8012.022	32
31	9.9306833	9.9218109	9.9127801	9.9035876	8524.783	8352.393	8180.505	8009.171	31
30	9.9305367	9.9216617	9.9126282	9.9034330	8521.906	8349.524	8177.645	8006.321	30
29	9.9303901	9.9215124	9.9124763	9.9032783	8519.029	8346.655	8174.785	8003.470	29
28	9.9302434	9.9213632	9.9123244	9.9031236	8516.152	8343.786	8171.925	8000.620	28
27	9.9300967	9.9212141	9.9121723	9.9029689	8513.276	8340.918	8169.065	7997.770	27
26	9.9299499	9.9210644	9.9120202	9.9028141	8510.399	8338.049	8166.205	7994.920	26
25	9.9298031	9.9209150	9.9118682	9.9026593	8507.523	8335.181	8163.346	7992.070	25
24	9.9296563	9.9207656	9.9117161	9.9025044	8504.647	8332.312	8160.487	7989.220	24
23	9.9295094	9.9206160	9.9115638	9.9023495	8501.771	8329.445	8157.628	7986.371	23
22	9.9293624	9.9204665	9.9114116	9.9021945	8498.895	8326.577	8154.769	7983.522	22
21	9.9292154	9.9203169	9.9112593	9.9020395	8496.019	8323.709	8151.910	7980.673	21
20	9.9290684	9.9201672	9.9111070	9.9018845	8493.143	8320.841	8149.051	7977.824	20
19	9.9289213	9.9200175	9.9109546	9.9017293	8490.267	8317.973	8146.192	7974.975	19
18	9.9287743	9.9198678	9.9108022	9.9015742	8487.392	8315.106	8143.334	7972.126	18
17	9.9286271	9.9197180	9.9106498	9.9014190	8484.516	8312.239	8140.476	7969.278	17
16	9.9284799	9.9195682	9.9104973	9.9012638	8481.641	8309.372	8137.618	7966.430	16
15	9.9283326	9.9194183	9.9103447	9.9011085	8478.766	8306.505	8134.760	7963.582	15
14	9.9281854	9.9192684	9.9101921	9.9009531	8475.891	8303.638	8131.902	7960.734	14
13	9.9280380	9.9191184	9.9100395	9.9007977	8473.016	8300.771	8129.044	7957.886	13
12	9.9278907	9.9189685	9.9098868	9.9006423	8470.141	8297.905	8126.187	7955.033	12
11	9.9277432	9.9188184	9.9097341	9.9004868	8467.266	8295.038	8123.330	7952.181	11
10	9.9275957	9.9186683	9.9095813	9.9003313	8464.392	8292.172	8120.473	7949.344	10
9	9.9274483	9.9185182	9.9094285	9.9001758	8461.518	8289.306	8117.616	7946.497	9
8	9.9273008	9.9183680	9.9092756	9.9000202	8458.644	8286.440	8114.759	7943.650	8
7	9.9271531	9.9182178	9.9091227	9.8998645	8455.770	8283.574	8111.902	7940.803	7
6	9.9270055	9.9180675	9.9089697	9.8997088	8452.896	8280.708	8109.046	7937.957	6
5	9.9268578	9.9179172	9.9088167	9.8995530	8450.022	8277.842	8106.190	7935.111	5
4	9.9267101	9.9177669	9.9086637	9.8993973	8447.148	8274.978	8103.334	7932.265	4
3	9.9265624	9.9176164	9.9085106	9.8992415	8444.275	8272.113	8100.478	7929.419	3
2	9.9264146	9.9174660	9.9083575	9.8990855	8441.401	8269.248	8097.622	7926.573	2
1	9.9262665	9.9173155	9.9082043	9.8989296	8438.528	8266.383	8094.766	7923.727	1
0	9.9261188	9.9171650	9.9080510	9.8987736	8435.655	8263.518	8091.910	7920.882	0

Dec. 12, 13, 14, 15.

A Table of Natural Veried

N. 12	N. 13	N. 14	N. 15	L. 12	L. 13	L. 14	L. 15	M
0018.524	0216.300	0297.043	0340.742	8.3354991	8.4087475	8.4728189	8.5324353	0
1 0219.129	0216.955	0297.747	0341.495	8.3407002	8.4098556	8.4738478	8.5333844	1
2 219.735	257.611	238.452	242.249	8.3418997	8.4109622	8.4748742	8.5343423	2
3 220.342	258.267	239.158	243.004	8.3430975	8.4120675	8.4759001	8.5352992	3
4 220.950	258.924	239.865	243.760	8.3442926	8.4131713	8.4769246	8.5362561	4
5 221.558	259.582	240.572	244.516	8.3454880	8.4142736	8.4779480	8.5372129	5
6 222.167	260.241	241.280	245.273	8.3466808	8.4153746	8.4789701	8.5381695	6
7 0222.777	0260.901	0301.989	0346.931	8.3478719	8.4164741	8.4799910	8.5391161	7
8 223.388	261.561	302.699	346.790	8.3490614	8.4175723	8.4810107	8.5400677	8
9 224.000	262.222	303.410	347.550	8.3502492	8.4186690	8.4820291	8.5410182	9
10 224.613	262.884	304.124	348.311	8.3514354	8.4197644	8.4830464	8.5419676	10
11 225.227	263.547	304.835	349.073	8.3526200	8.4208583	8.4840625	8.5429160	11
12 225.841	264.211	305.546	349.835	8.3538029	8.4219508	8.4850773	8.5438633	12
13 0226.456	0264.876	0306.260	0350.598	8.3549842	8.4230420	8.4860910	8.5448096	13
14 227.072	265.541	306.975	351.362	8.3561639	8.4241318	8.4871034	8.5457548	14
15 227.686	266.207	307.691	352.127	8.3573419	8.4252200	8.4881146	8.5466983	15
16 228.307	266.874	308.407	352.892	8.3585184	8.4263072	8.4891247	8.5476422	16
17 228.925	267.542	309.124	353.658	8.3596932	8.4273928	8.4901336	8.5485843	17
18 229.544	268.211	309.842	354.425	8.3608664	8.4284770	8.4911412	8.5495253	18
19 0230.164	0268.880	0310.561	0355.193	8.3620380	8.4295600	8.4921477	8.5504654	19
20 230.785	269.550	311.281	355.962	8.3632081	8.4306414	8.4931530	8.5514044	20
21 231.407	270.221	312.002	356.732	8.3643765	8.4317216	8.4941572	8.5523423	21
22 232.030	270.893	312.723	357.502	8.3655434	8.4328004	8.4951601	8.5532792	22
23 232.653	271.566	313.445	358.273	8.3667086	8.4338776	8.4961619	8.5542152	23
24 233.277	272.240	314.168	359.045	8.3678723	8.4349539	8.4971625	8.5551500	24
25 0233.902	0272.915	0314.892	0359.818	8.3690344	8.4360286	8.4981619	8.5560839	25
26 234.528	273.591	315.617	360.592	8.3701950	8.4371020	8.4991602	8.5570167	26
27 235.155	274.267	316.343	361.367	8.3713540	8.4381740	8.5001573	8.5579485	27
28 235.783	274.944	317.069	362.142	8.3725114	8.4392447	8.5011522	8.5588793	28
29 236.411	275.622	317.796	362.918	8.3736672	8.4403141	8.5021480	8.5598091	29
30 237.040	276.301	318.524	363.695	8.3748215	8.4413821	8.5031416	8.5607379	30
31 0237.670	0276.980	0319.253	0364.473	8.3759743	8.4424488	8.5041341	8.5616656	31
32 238.301	277.660	319.983	365.252	8.3771255	8.4435142	8.5051254	8.5625924	32
33 238.933	278.341	320.713	366.031	8.3782751	8.4445743	8.5061136	8.5635181	33
34 239.565	279.023	321.444	366.811	8.3794232	8.4456410	8.5071046	8.5644429	34
35 240.198	279.706	322.176	367.592	8.3805698	8.4467024	8.5080925	8.5653666	35
36 240.832	280.390	322.909	368.374	8.3817149	8.4477625	8.5090792	8.5662894	36
37 0241.467	0281.074	0323.643	0369.157	8.3828584	8.4488213	8.5100648	8.5672111	37
38 242.103	281.758	324.377	369.941	8.3840004	8.4498788	8.5110493	8.5681318	38
39 242.740	282.443	325.113	370.725	8.3851409	8.4509350	8.5120321	8.5690516	39
40 243.377	283.128	325.848	371.510	8.3862799	8.4519898	8.5130148	8.5699704	40
41 244.015	283.820	326.585	372.296	8.3874174	8.4530434	8.5139959	8.5708881	41
42 244.654	284.509	327.323	373.083	8.3885533	8.4540957	8.5149758	8.5718049	42
43 0245.294	0285.198	0328.063	0373.871	8.3896878	8.4551467	8.5159546	8.5727207	43
44 245.935	285.888	328.801	374.659	8.3908207	8.4561964	8.5169234	8.5736355	44
45 246.577	286.579	329.541	375.448	8.3919522	8.4572448	8.5178909	8.5745494	45
46 247.219	287.271	330.282	376.238	8.3930822	8.4582920	8.5188544	8.5754622	46
47 247.862	287.964	331.024	377.029	8.3942107	8.4593378	8.5198188	8.5763741	47
48 248.506	288.657	331.767	377.821	8.3953377	8.4603824	8.5207830	8.5772850	48
49 0249.151	0289.351	0332.510	0378.613	8.3964638	8.4614257	8.5218042	8.5781949	49
50 249.797	290.046	333.254	379.406	8.3975872	8.4624677	8.5227752	8.5791039	50
51 250.443	290.742	333.999	380.200	8.3987098	8.4635085	8.5237451	8.5800119	51
52 251.090	291.439	334.745	380.995	8.3998310	8.4645480	8.5247140	8.5809189	52
53 251.738	292.137	335.492	381.791	8.4009506	8.4655863	8.5256817	8.5818250	53
54 252.387	292.835	336.239	382.587	8.4020688	8.4666233	8.5266484	8.5827301	54
55 0253.037	0293.534	0336.987	0383.384	8.4031855	8.4676601	8.5276139	8.5836342	55
56 253.688	294.234	337.736	384.182	8.4043008	8.4686953	8.5285784	8.5845374	56
57 254.340	294.935	338.486	384.981	8.4054147	8.4697298	8.5295417	8.5854396	57
58 254.992	295.637	339.237	385.781	8.4065270	8.4707627	8.5305040	8.5863408	58
59 255.645	296.340	339.989	386.582	8.4076380	8.4717949	8.5314652	8.5872412	59
60 256.300	297.043	340.742	387.383	8.4087475	8.4728189	8.5324253	8.5881400	60

Sines, and their Logarithms.

Deg. 77. 76 75. 74

M	L. 77	L. 76	L. 75	L. 74	N. 77	N. 76	N. 75	N. 74	M
60	9.8987736	9.8892291	9.8797140	9.8699243	7920.883	7750.489	7580.781	7411.810	60
59	9.8986176	9.8891703	9.8795522	9.8697596	7918.038	7747.655	7577.959	7409.000	59
58	9.8984615	9.8891114	9.8793905	9.8695949	7915.193	7744.821	7575.137	7406.191	58
57	9.8983054	9.8889524	9.8792286	9.8694301	7912.348	7741.987	7572.315	7403.382	57
56	9.8981492	9.8887935	9.8790668	9.8692653	7909.503	7739.153	7569.493	7400.573	56
55	9.8979930	9.8886344	9.8789048	9.8691004	7906.658	7736.320	7566.671	7397.764	55
54	9.8978367	9.8884754	9.8787429	9.8689355	7903.814	7733.487	7563.850	7394.955	54
53	9.8976804	9.8883162	9.8785809	9.8687705	7900.970	7730.654	7561.039	7392.147	53
52	9.8975241	9.8881571	9.8784188	9.8686056	7898.126	7727.821	7558.228	7389.339	52
51	9.8973676	9.8879978	9.8782567	9.8684405	7895.282	7724.988	7555.417	7386.531	51
50	9.8972112	9.8878386	9.8780946	9.8682754	7892.438	7722.156	7552.606	7383.723	50
49	9.8970547	9.8876792	9.8779323	9.8681102	7889.595	7719.324	7549.794	7380.916	49
48	9.8968982	9.8875199	9.8777701	9.8679450	7886.752	7716.492	7546.983	7378.109	48
47	9.8967416	9.8873604	9.8776078	9.8677797	7883.909	7713.660	7544.172	7375.302	47
46	9.8965850	9.8872010	9.8774454	9.8676145	7881.066	7710.828	7541.361	7372.495	46
45	9.8964283	9.8869415	9.8772830	9.8674491	7878.223	7707.996	7538.550	7369.688	45
44	9.8962716	9.8867819	9.8771206	9.8672837	7875.380	7705.165	7535.739	7366.882	44
43	9.8961148	9.8866223	9.8769581	9.8671182	7872.538	7702.334	7532.928	7364.076	43
42	9.8959580	9.8864627	9.8767955	9.8669527	7869.696	7699.503	7530.117	7361.270	42
41	9.8958011	9.8863029	9.8766329	9.8667871	7866.854	7696.672	7527.302	7358.464	41
40	9.8956442	9.8861432	9.8764703	9.8666216	7864.012	7693.841	7524.491	7355.658	40
39	9.8954872	9.8859834	9.8763076	9.8664559	7861.170	7691.011	7521.680	7352.853	39
38	9.8953302	9.8858236	9.8761449	9.8662902	7858.329	7688.181	7518.869	7349.048	38
37	9.8951731	9.8856637	9.8759821	9.8661244	7855.488	7685.351	7516.058	7346.243	37
36	9.8950161	9.8855038	9.8758192	9.8659586	7852.647	7682.521	7513.247	7343.437	36
35	9.8948589	9.8853437	9.8756563	9.8657927	7849.806	7679.691	7510.436	7340.632	35
34	9.8947017	9.8851837	9.8754934	9.8656269	7846.965	7676.862	7507.625	7337.827	34
33	9.8945445	9.8850236	9.8753304	9.8654609	7844.124	7674.033	7504.814	7335.022	33
32	9.8943872	9.8848635	9.8751674	9.8652949	7841.283	7671.204	7502.003	7332.217	32
31	9.8942298	9.8847033	9.8750043	9.8651288	7838.442	7668.375	7499.192	7329.412	31
30	9.8940725	9.8845431	9.8748412	9.8649627	7835.601	7665.546	7496.381	7326.607	30
29	9.8939150	9.8843829	9.8746780	9.8647965	7832.760	7662.717	7493.570	7323.802	29
28	9.8937576	9.8842225	9.8745147	9.8646303	7829.920	7659.888	7490.759	7321.000	28
27	9.8936000	9.8840621	9.8743514	9.8644641	7827.084	7657.062	7487.948	7318.198	27
26	9.8934425	9.8839017	9.8741881	9.8642978	7824.245	7654.234	7485.137	7315.396	26
25	9.8932848	9.8837412	9.8740247	9.8641314	7821.406	7651.406	7482.326	7312.594	25
24	9.8931272	9.8835807	9.8738613	9.8639650	7818.567	7648.579	7479.515	7309.792	24
23	9.8929695	9.8834202	9.8736978	9.8637985	7815.728	7645.752	7476.704	7306.990	23
22	9.8928117	9.8832596	9.8735343	9.8636320	7812.889	7642.925	7473.893	7304.188	22
21	9.8926539	9.8830989	9.8733707	9.8634655	7810.051	7640.098	7471.082	7301.387	21
20	9.8924961	9.8829382	9.8732071	9.8632989	7807.213	7637.271	7468.271	7298.585	20
19	9.8923381	9.8827774	9.8730434	9.8631322	7804.375	7634.445	7465.460	7295.784	19
18	9.8921802	9.8826167	9.8728797	9.8629655	7801.537	7631.619	7462.649	7292.983	18
17	9.8920222	9.8824558	9.8727159	9.8627987	7798.700	7628.793	7459.838	7290.182	17
16	9.8918642	9.8822949	9.8725521	9.8626319	7795.863	7625.967	7457.027	7287.381	16
15	9.8917061	9.8821339	9.8723882	9.8624650	7793.026	7623.141	7454.216	7284.580	15
14	9.8915480	9.8819730	9.8722243	9.8622981	7790.189	7620.316	7451.405	7281.779	14
13	9.8913898	9.8818119	9.8720603	9.8621314	7787.352	7617.491	7448.594	7278.978	13
12	9.8912316	9.8816508	9.8718963	9.8619642	7784.515	7614.666	7445.783	7276.177	12
11	9.8910733	9.8814897	9.8717322	9.8617971	7781.678	7611.841	7442.972	7273.376	11
10	9.8909150	9.8813285	9.8715682	9.8616300	7778.842	7609.017	7440.161	7270.575	10
9	9.8907566	9.8811672	9.8714043	9.8614628	7776.006	7606.193	7437.350	7267.774	9
8	9.8905982	9.8810060	9.8712398	9.8612956	7773.170	7603.368	7434.539	7264.973	8
7	9.8904397	9.8808446	9.8710755	9.8611283	7770.334	7600.544	7431.728	7262.172	7
6	9.8902812	9.8806833	9.8709112	9.8609610	7767.498	7597.720	7428.917	7259.371	6
5	9.8901226	9.8805218	9.8707468	9.8607936	7764.662	7594.896	7426.106	7256.570	5
4	9.8899640	9.8803604	9.8705824	9.8606262	7761.825	7592.072	7423.295	7253.769	4
3	9.8898054	9.8801988	9.8704179	9.8604587	7758.989	7589.250	7420.484	7250.968	3
2	9.8896467	9.8800372	9.8702534	9.8602912	7756.153	7586.427	7417.673	7248.167	2
1	9.8894879	9.8798756	9.8700888	9.8601236	7753.317	7583.604	7414.862	7245.366	1
0	9.8893291	9.8797140	9.8699243	9.8599560	7750.483	7580.781	7411.310	7242.565	0

Deg. 16, 17, 18, 19.

A Table of Natural Veried

	N. 10	N. 17	N. 18	N. 19	L. 16	L. 17	L. 18	L. 19	M
0	0387.383	0436.952	0489.435	0544.814	3.5881406	3.6404342	3.6896949	3.7362485	0
1	0388.185	0437.303	0490.334	0545.762	3.5890390	3.6412790	3.6904921	3.7370030	1
2	388.988	438.655	491.234	546.710	3.5899365	3.6421231	3.6913886	3.7377570	2
3	389.792	439.508	492.135	547.659	3.5908339	3.6429663	3.6922844	3.7385102	3
4	390.597	440.361	493.037	548.609	3.5917286	3.6438087	3.6931794	3.7392628	4
5	391.402	441.215	493.939	549.559	3.5926232	3.6446502	3.6940736	3.7400147	5
6	392.203	442.070	494.843	550.511	3.5935170	3.6454909	3.6949672	3.7407659	6
7	0393.015	0442.926	0495.747	0551.463	3.5944097	3.6463308	3.6958599	3.7415165	7
8	393.823	443.782	496.652	552.416	3.5953016	3.6471698	3.6967520	3.7422664	8
9	394.632	444.639	497.557	553.370	3.5961925	3.6479880	3.6976432	3.7430156	9
10	395.441	445.498	498.464	554.325	3.5970824	3.6488054	3.6985338	3.7437642	10
11	396.251	446.357	499.371	555.280	3.5979715	3.6496820	3.6994236	3.7445121	11
12	397.062	447.216	500.279	556.236	3.5988596	3.6505177	3.6999217	3.7452593	12
13	0397.874	0448.077	0501.188	0557.193	3.5997468	3.6513526	3.7000010	3.7460059	13
14	398.687	448.938	502.098	558.151	3.6006330	3.6521867	3.7007886	3.7467518	14
15	399.501	449.801	503.009	559.110	3.6015184	3.6530200	3.7015755	3.7474971	15
16	400.315	450.664	503.920	560.069	3.6024028	3.6538524	3.7023617	3.7482417	16
17	401.130	451.527	504.832	561.029	3.6032862	3.6546841	3.7031471	3.7489857	17
18	401.946	452.392	505.745	561.990	3.6041689	3.6555149	3.7039318	3.7497290	18
19	0402.763	0453.257	0506.659	0562.952	3.6050505	3.6563449	3.7047158	3.7504716	19
20	403.581	454.124	507.574	563.915	3.6059313	3.6571741	3.7054990	3.7512136	20
21	404.400	454.991	508.489	564.878	3.6068112	3.6580025	3.7062815	3.7519549	21
22	405.219	455.859	509.405	565.843	3.6076901	3.6588301	3.7070632	3.7526956	22
23	406.039	456.727	510.322	566.808	3.6085681	3.6596569	3.7078444	3.7534357	23
24	406.860	457.597	511.240	567.773	3.6094453	3.6604829	3.7086247	3.7541751	24
25	0407.682	0458.467	0512.158	0568.740	3.6103215	3.6613081	3.7094044	3.7549138	25
26	408.505	459.338	513.078	569.707	3.6111968	3.6621324	3.7101833	3.7556519	26
27	409.328	460.210	513.998	570.676	3.6120712	3.6629560	3.7109615	3.7563894	27
28	410.152	461.083	514.919	571.645	3.6129448	3.6637788	3.7117390	3.7571262	28
29	410.977	461.956	515.841	572.614	3.6138174	3.6646008	3.7125157	3.7578623	29
30	411.803	462.830	516.763	573.585	3.6146891	3.6654220	3.7132918	3.7585979	30
31	0412.629	0463.705	0517.687	0574.556	3.6155600	3.6662424	3.7140671	3.7593327	31
32	413.456	464.582	518.611	575.529	3.6164299	3.6670620	3.7148418	3.7600670	32
33	414.284	465.458	519.536	576.502	3.6172990	3.6678808	3.7156157	3.7608006	33
34	415.113	466.336	520.462	577.475	3.6181672	3.6686988	3.7163889	3.7615336	34
35	415.947	467.214	521.388	578.450	3.6190345	3.6695160	3.7171614	3.7622659	35
36	416.774	468.093	522.316	579.425	3.6199009	3.6703322	3.7179332	3.7629976	36
37	0417.605	0468.973	0523.244	0580.402	3.6207664	3.6711481	3.7187044	3.7637286	37
38	418.437	469.854	524.173	581.379	3.6216331	3.6719630	3.7194748	3.7644591	38
39	419.270	470.736	525.103	582.356	3.6224948	3.6727771	3.7202445	3.7651889	39
40	420.104	471.618	526.034	583.335	3.6233577	3.6735904	3.7210135	3.7659180	40
41	420.939	472.501	526.965	584.314	3.6242197	3.6744029	3.7217818	3.7666466	41
42	421.775	473.385	527.897	585.295	3.6250809	3.6752147	3.7225494	3.7673745	42
43	0422.611	0474.270	0528.830	0586.276	3.6259412	3.6760256	3.7233163	3.7681018	43
44	423.443	475.156	529.764	587.257	3.6268006	3.6768358	3.7240825	3.7688284	44
45	424.286	476.042	530.699	588.240	3.6276591	3.6776453	3.7248480	3.7695544	45
46	425.125	476.929	531.634	589.223	3.6285168	3.6784539	3.7256129	3.7702798	46
47	425.964	477.817	532.570	590.207	3.6293736	3.6792618	3.7263773	3.7710046	47
48	426.804	478.706	533.507	591.192	3.6302295	3.6800689	3.7271404	3.7717288	48
49	0427.645	0479.596	0534.445	0592.178	3.6310846	3.6808753	3.7279032	3.7724523	49
50	428.487	480.486	535.384	593.164	3.6319388	3.6816809	3.7286653	3.7731752	50
51	429.330	481.377	536.323	594.152	3.6327922	3.6824857	3.7294267	3.7738975	51
52	430.174	482.269	537.264	595.140	3.6336447	3.6832897	3.7301874	3.7746192	52
53	431.018	483.162	538.205	596.129	3.6344964	3.6840930	3.7309474	3.7753402	53
54	431.863	484.056	539.146	597.119	3.6353472	3.6848956	3.7317067	3.7760607	54
55	0432.709	0484.950	0540.089	0598.109	3.6361971	3.6856973	3.7324654	3.7767805	55
56	433.556	485.846	541.032	599.101	3.6370462	3.6864984	3.7332233	3.7774997	56
57	434.404	486.742	541.977	600.093	3.6378945	3.6872986	3.7339806	3.7782183	57
58	435.253	487.639	542.922	601.086	3.6387419	3.6880981	3.7347373	3.7789363	58
59	436.102	488.536	543.868	602.079	3.6395884	3.6888969	3.7354932	3.7796537	59
60	436.952	489.435	544.814	603.074	3.6404342	3.6896949	3.7362485	3.7803701	60

Dec.32,33,34,35		A Table of Natural Verted	
M	L 35	L 34	L 33
0	9.1817061	9.2077136	9.2329007
1	9.1821466	9.2081399	9.2333137
2	9.1838068	9.2096661	9.2347152
3	9.1858266	9.2111182	9.2361991
4	9.1883466	9.2126693	9.2377788
5	9.1914841	9.2143693	9.2394736
6	9.1953994	9.2162284	9.2413013
7	9.2002481	9.2182673	9.2432678
8	9.2061991	9.2204061	9.2453785
9	9.2133210	9.2226448	9.2476391
10	9.2217173	9.2250835	9.2500654
11	9.2314076	9.2277222	9.2526638
12	9.2424329	9.2305609	9.2554413
13	9.2548372	9.2336096	9.2584039
14	9.2686755	9.2368783	9.2615565
15	9.2839928	9.2403670	9.2649151
16	9.3008441	9.2440857	9.2684848
17	9.3192954	9.2480444	9.2722705
18	9.3394147	9.2522531	9.2762882
19	9.3612610	9.2567218	9.2805439
20	9.3849143	9.2614605	9.2850536
21	9.4104656	9.2664892	9.2898233
22	9.4379169	9.2718179	9.2948590
23	9.4672682	9.2774466	9.2999667
24	9.4985195	9.2833753	9.3051524
25	9.5316708	9.2896040	9.3104201
26	9.5667221	9.2961327	9.3157658
27	9.6036734	9.3029614	9.3211955
28	9.6425247	9.3100901	9.3267052
29	9.6832760	9.3175188	9.3322909
30	9.7259273	9.3252475	9.3379486
31	9.7704786	9.3332762	9.3436733
32	9.8169299	9.3416049	9.3494610
33	9.8652812	9.3502336	9.3553167
34	9.9155325	9.3591623	9.3612354
35	9.9676838	9.3683910	9.3672141
36	9.1027341	9.3779197	9.3732528
37	9.1086844	9.3877484	9.3793565
38	9.1145347	9.3978771	9.3855202
39	9.1202850	9.4083058	9.3917479
40	9.1259353	9.4190345	9.3980346
41	9.1313856	9.4200632	9.4043753
42	9.1366359	9.4213919	9.4107760
43	9.1416862	9.4229206	9.4172327
44	9.1465365	9.4246493	9.4237514
45	9.1511868	9.4265780	9.4303281
46	9.1556371	9.4287067	9.4369588
47	9.1598874	9.4310354	9.4436495
48	9.1639377	9.4335641	9.4503952
49	9.1677880	9.4362928	9.4571909
50	9.1714383	9.4392215	9.4640366
51	9.1748886	9.4423502	9.4709273
52	9.1781389	9.4455789	9.4778680
53	9.1811892	9.4489076	9.4848637
54	9.1840395	9.4523363	9.4919194
55	9.1866898	9.4558650	9.4990301
56	9.1891301	9.4594937	9.5061958
57	9.1913704	9.4632224	9.5134165
58	9.1934107	9.4670511	9.5206922
59	9.1952510	9.4709798	9.5279229
60	9.1968913	9.4750085	9.5351086
61	9.1983316	9.4791372	9.5422493
62	9.1995719	9.4833659	9.5493450
63	9.2006122	9.4876946	9.5563957
64	9.2014525	9.4921233	9.5634014
65	9.2020928	9.4966520	9.5703621
66	9.2025331	9.5012807	9.5

Sines, and their Logarithms.									
M	L	61	L	60	L	59	L	58	N
0	97	118	97	118	97	118	97	118	0
1	97	118	97	118	97	118	97	118	1
2	97	118	97	118	97	118	97	118	2
3	97	118	97	118	97	118	97	118	3
4	97	118	97	118	97	118	97	118	4
5	97	118	97	118	97	118	97	118	5
6	97	118	97	118	97	118	97	118	6
7	97	118	97	118	97	118	97	118	7
8	97	118	97	118	97	118	97	118	8
9	97	118	97	118	97	118	97	118	9
10	97	118	97	118	97	118	97	118	10
11	97	118	97	118	97	118	97	118	11
12	97	118	97	118	97	118	97	118	12
13	97	118	97	118	97	118	97	118	13
14	97	118	97	118	97	118	97	118	14
15	97	118	97	118	97	118	97	118	15
16	97	118	97	118	97	118	97	118	16
17	97	118	97	118	97	118	97	118	17
18	97	118	97	118	97	118	97	118	18
19	97	118	97	118	97	118	97	118	19
20	97	118	97	118	97	118	97	118	20
21	97	118	97	118	97	118	97	118	21
22	97	118	97	118	97	118	97	118	22
23	97	118	97	118	97	118	97	118	23
24	97	118	97	118	97	118	97	118	24
25	97	118	97	118	97	118	97	118	25
26	97	118	97	118	97	118	97	118	26
27	97	118	97	118	97	118	97	118	27
28	97	118	97	118	97	118	97	118	28
29	97	118	97	118	97	118	97	118	29
30	97	118	97	118	97	118	97	118	30
31	97	118	97	118	97	118	97	118	31
32	97	118	97	118	97	118	97	118	32
33	97	118	97	118	97	118	97	118	33
34	97	118	97	118	97	118	97	118	34
35	97	118	97	118	97	118	97	118	35
36	97	118	97	118	97	118	97	118	36
37	97	118	97	118	97	118	97	118	37
38	97	118	97	118	97	118	97	118	38
39	97	118	97	118	97	118	97	118	39
40	97	118	97	118	97	118	97	118	40
41	97	118	97	118	97	118	97	118	41
42	97	118	97	118	97	118	97	118	42
43	97	118	97	118	97	118	97	118	43
44	97	118	97	118	97	118	97	118	44
45	97	118	97	118	97	118	97	118	45
46	97	118	97	118	97	118	97	118	46
47	97	118	97	118	97	118	97	118	47
48	97	118	97	118	97	118	97	118	48
49	97	118	97	118	97	118	97	118	49
50	97	118	97	118	97	118	97	118	50
51	97	118	97	118	97	118	97	118	51
52	97	118	97	118	97	118	97	118	52
53	97	118	97	118	97	118	97	118	53
54	97	118	97	118	97	118	97	118	54
55	97	118	97	118	97	118	97	118	55
56	97	118	97	118	97	118	97	118	56
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M L 65 L 64 L 63 L 62																																																												M L 65 L 64 L 63 L 62																																																																																																																																																																						
60	9.7733475	9.7614639	9.7494448	9.7373202	9.7250904	9.7127556	9.7003159	9.6877715	9.6751225	9.6623690	9.6495112	9.6365492	9.6234831	9.6103130	9.5970390	9.5836612	9.5701796	9.5565942	9.5429050	9.5291120	9.5152152	9.5012146	9.4871102	9.4729020	9.4585900	9.4441742	9.4296546	9.4150312	9.4003040	9.3854730	9.3705382	9.3555096	9.3403872	9.3251710	9.3098610	9.2944572	9.2789596	9.2633682	9.2476830	9.2319040	9.2160312	9.1999646	9.1838042	9.1675490	9.1511990	9.1347542	9.1182146	9.1015802	9.0848510	9.0680270	9.0511082	9.0340946	9.0169862	9.0000000	8.9828358	8.9655836	8.9481334	8.9304852	8.9126390	8.8945948	8.8763526	8.8579124	8.8392742	8.8204380	8.8014038	8.7821716	8.7627414	8.7431132	8.7232870	8.7032628	8.6830406	8.6626204	8.6420022	8.6211860	8.6001718	8.5799606	8.5595524	8.5389472	8.5181450	8.4971458	8.4759496	8.4545564	8.4329662	8.4111790	8.3891948	8.3670136	8.3446354	8.3220602	8.2992890	8.2763228	8.2531616	8.2298054	8.2062542	8.1825080	8.1585668	8.1344306	8.1100994	8.0855732	8.0608520	8.0359358	8.0108246	7.9855184	7.9599172	7.9340210	7.9078308	7.8813466	7.8545684	7.8274962	7.7999290	7.7719668	7.7436096	7.7148524	7.6856952	7.6561380	7.6261808	7.5958236	7.5650664	7.5339092	7.5023520	7.4703948	7.4379376	7.4050804	7.3718232	7.3381660	7.3041088	7.2696516	7.2347944	7.1995372	7.1638800	7.1278228	7.0913656	7.0545084	7.0172512	6.9795940	6.9414368	6.9027796	6.8636224	6.8240652	6.7841080	6.7437508	6.7029936	6.6617364	6.6200792	6.5779220	6.5352648	6.4921076	6.4484504	6.4042932	6.3596360	6.3144788	6.2688216	6.2226644	6.1760072	6.1288500	6.0811928	6.0330356	5.9843784	5.9352212	5.8855640	5.8354068	5.7847496	5.7335924	5.6819352	5.6297780	5.5771208	5.5239636	5.4703064	5.4161492	5.3614920	5.3063348	5.2506776	5.1945204	5.1378632	5.0807060	5.0230488	4.9648916	4.9062344	4.8470772	4.7874200	4.7272628	4.6666056	4.6054484	4.5437912	4.4816340	4.4189768	4.3558196	4.2921624	4.2280052	4.1633480	4.0981908	4.0325336	3.9663764	3.8997192	3.8325620	3.7649048	3.6967476	3.6280904	3.5589332	3.4892760	3.4191188	3.3484616	3.2773044	3.2056472	3.1334900	3.0608328	2.9876756	2.9140184	2.8398612	2.7652040	2.6899468	2.6140896	2.5376324	2.4605752	2.3829180	2.3046608	2.2258036	2.1463464	2.0662892	1.9856320	1.9043748	1.8225176	1.7400604	1.6570032	1.5733460	1.4890888	1.4042316

A Table of Natural Verted

Dec. 24. 25. 26. 27.

M	N. 24	N. 25	N. 26	N. 27	L. 24	L. 25	L. 26	L. 27	M
0	0864.145	0866.922	1012.060	1089.934	8.97367878	8.9717035	8.9700516	8.9687400	0
1	0865.729	0868.152	1013.335	1091.256	8.97273817	8.9707279	8.9690712	8.9677596	1
2	0867.913	0870.382	1014.613	1092.577	8.97197956	8.9700000	8.9683424	8.9670308	2
3	0870.614	0872.888	1015.888	1093.900	8.97121195	8.9692711	8.9676145	8.9663029	3
4	0873.846	0876.145	1017.166	1095.223	8.97044433	8.9685027	8.9668469	8.9655353	4
5	0877.587	0880.014	1018.444	1096.547	8.96967672	8.9677381	8.9660815	8.9647699	5
6	0881.846	0884.382	1019.722	1097.872	8.96890911	8.9670000	8.9653453	8.9640337	6
7	0886.614	0889.256	1021.000	1099.197	8.96814150	8.9662711	8.9646145	8.9633029	7
8	0891.846	0895.145	1022.278	1100.523	8.96737389	8.9655027	8.9638469	8.9625353	8
9	0897.587	0901.014	1023.556	1101.847	8.96660628	8.9647381	8.9630815	8.9617699	9
10	0903.846	0907.382	1024.834	1103.172	8.96583867	8.9640000	8.9623453	8.9610337	10
11	0910.614	0915.888	1026.112	1104.497	8.96507106	8.9632711	8.9616145	8.9603029	11
12	0917.846	0923.145	1027.390	1105.822	8.96430345	8.9625027	8.9608469	8.9595353	12
13	0925.587	0931.014	1028.668	1107.147	8.96353584	8.9617381	8.9600815	8.9587699	13
14	0933.846	0940.382	1029.946	1108.472	8.96276823	8.9610000	8.9593453	8.9580337	14
15	0942.614	0948.888	1031.224	1109.797	8.96200062	8.9602711	8.9586145	8.9573029	15
16	0951.846	0958.145	1032.502	1111.122	8.96123301	8.9595027	8.9578469	8.9565353	16
17	0961.587	0968.382	1033.780	1112.447	8.96046540	8.9587381	8.9570815	8.9557699	17
18	0971.846	0979.256	1035.058	1113.772	8.95969779	8.9580000	8.9563453	8.9550337	18
19	0982.587	0989.888	1036.336	1115.097	8.95893018	8.9572711	8.9556145	8.9543029	19
20	0993.846	0999.888	1037.614	1116.422	8.95816257	8.9565027	8.9548469	8.9535353	20
21	1005.587	1011.014	1038.892	1117.747	8.95739496	8.9557381	8.9540815	8.9527699	21
22	1017.846	1023.382	1040.170	1119.072	8.95662735	8.9550000	8.9533453	8.9520337	22
23	1030.614	1036.888	1041.448	1120.397	8.95585974	8.9542711	8.9526145	8.9513029	23
24	1043.846	1050.145	1042.726	1121.722	8.95509213	8.9535027	8.9518469	8.9505353	24
25	1057.587	1063.382	1044.004	1123.047	8.95432452	8.9527381	8.9510815	8.9497699	25
26	1071.846	1077.888	1045.282	1124.372	8.95355691	8.9520000	8.9503453	8.9490337	26
27	1086.587	1093.888	1046.560	1125.697	8.95278930	8.9512711	8.9496145	8.9483029	27
28	1101.846	1109.888	1047.838	1127.022	8.95202169	8.9505027	8.9488469	8.9475353	28
29	1117.587	1126.145	1049.116	1128.347	8.95125408	8.9497381	8.9480815	8.9467699	29
30	1133.846	1142.382	1050.394	1129.672	8.95048647	8.9490000	8.9473453	8.9460337	30
31	1150.587	1159.888	1051.672	1131.000	8.94971886	8.9482711	8.9466145	8.9453029	31
32	1167.846	1177.145	1052.950	1132.325	8.94895125	8.9475027	8.9458469	8.9445353	32
33	1185.587	1195.382	1054.228	1133.650	8.94818364	8.9467381	8.9450815	8.9437699	33
34	1203.846	1213.888	1055.506	1134.975	8.94741603	8.9460000	8.9443453	8.9430337	34
35	1222.587	1232.145	1056.784	1136.300	8.94664842	8.9452711	8.9436145	8.9423029	35
36	1241.846	1250.382	1058.062	1137.625	8.94588081	8.9445027	8.9428469	8.9415353	36
37	1261.587	1268.888	1059.340	1138.950	8.94511320	8.9437381	8.9420815	8.9407699	37
38	1282.587	1288.145	1060.618	1140.275	8.94434559	8.9430000	8.9413453	8.9400337	38
39	1304.846	1308.382	1061.896	1141.600	8.94357798	8.9422711	8.9406145	8.9393029	39
40	1327.587	1328.888	1063.174	1142.925	8.94281037	8.9415027	8.9398469	8.9385353	40
41	1351.846	1350.145	1064.452	1144.250	8.94204276	8.9407381	8.9390815	8.9377699	41
42	1377.587	1379.382	1065.730	1145.575	8.94127515	8.9400000	8.9383453	8.9370337	42
43	1404.846	1400.888	1067.008	1146.900	8.94050754	8.9392711	8.9376145	8.9363029	43
44	1433.587	1431.145	1068.286	1148.225	8.93973993	8.9385027	8.9368469	8.9355353	44
45	1463.846	1461.382	1069.564	1149.550	8.93897232	8.9377381	8.9360815	8.9347699	45
46	1495.587	1493.888	1070.842	1150.875	8.93820471	8.9370000	8.9353453	8.9340337	46
47	1528.846	1527.145	1072.120	1152.200	8.93743710	8.9362711	8.9346145	8.9333029	47
48	1563.587	1562.382	1073.398	1153.525	8.93666949	8.9355027	8.9338469	8.9325353	48
49	1600.846	1600.888	1074.676	1154.850	8.93590188	8.9347381	8.9330815	8.9317699	49
50	1640.587	1641.145	1075.954	1156.175	8.93513427	8.9340000	8.9323453	8.9310337	50
51	1682.846	1683.888	1077.232	1157.500	8.93436666	8.9332711	8.9316145	8.9303029	51
52	1727.587	1728.888	1078.510	1158.825	8.93359905	8.9325027	8.9308469	8.9295353	52
53	1775.846	1777.145	1079.788	1160.150	8.93283144	8.9317381	8.9300815	8.9287699	53
54	1827.587	1829.382	1081.066	1161.475	8.93206383	8.9310000	8.9293453	8.9280337	54
55	1881.846	1883.888	1082.344	1162.800	8.93129622	8.9302711	8.9286145	8.9273029	55
56	1938.587	1940.888	1083.622	1164.125	8.93052861	8.9295027	8.9278469	8.9265353	56
57	1997.846	1999.888	1084.900	1165.450	8.92976100	8.9287381	8.9270815	8.9257699	57
58	2059.587	2061.888	1086.178	1166.775	8.92899339	8.9280000	8.9263453	8.9250337	58
59	2123.846	2126.382	1087.456	1168.100	8.92822578	8.9272711	8.9256145	8.9243029	59
60	2190.587	2193.888	1088.734	1169.425	8.92745817	8.9265027	8.9248469	8.9235353	60

A Table of Natural Verted

Dec. 20, 21, 22, 23.

M	N. 20	N. 21	N. 22	N. 23	L. 20	L. 21	L. 22	L. 23
0	0603.074	0664.196	0729.161	0794.951	8.822.961	8.822.961	8.822.961	8.822.961
1	0604.065	0665.239	0730.242	0796.008	8.822.961	8.822.961	8.822.961	8.822.961
2	0605.059	0666.327	0731.327	0797.126	8.822.961	8.822.961	8.822.961	8.822.961
3	0606.052	0667.414	0732.414	0798.246	8.822.961	8.822.961	8.822.961	8.822.961
4	0607.050	0668.500	0733.500	0799.366	8.822.961	8.822.961	8.822.961	8.822.961
5	0608.050	0669.586	0734.586	0800.486	8.822.961	8.822.961	8.822.961	8.822.961
6	0609.057	0670.672	0735.672	0801.606	8.822.961	8.822.961	8.822.961	8.822.961
7	0610.055	0671.758	0736.758	0802.726	8.822.961	8.822.961	8.822.961	8.822.961
8	0611.059	0672.844	0737.844	0803.846	8.822.961	8.822.961	8.822.961	8.822.961
9	0612.060	0673.930	0738.930	0804.966	8.822.961	8.822.961	8.822.961	8.822.961
10	0613.062	0675.016	0739.016	0806.086	8.822.961	8.822.961	8.822.961	8.822.961
11	0614.066	0676.102	0740.102	0807.206	8.822.961	8.822.961	8.822.961	8.822.961
12	0615.070	0677.188	0741.188	0808.326	8.822.961	8.822.961	8.822.961	8.822.961
13	0616.075	0678.274	0742.274	0809.446	8.822.961	8.822.961	8.822.961	8.822.961
14	0617.080	0679.360	0743.360	0810.566	8.822.961	8.822.961	8.822.961	8.822.961
15	0618.087	0680.446	0744.446	0811.686	8.822.961	8.822.961	8.822.961	8.822.961
16	0619.094	0681.532	0745.532	0812.806	8.822.961	8.822.961	8.822.961	8.822.961
17	0620.102	0682.618	0746.618	0813.926	8.822.961	8.822.961	8.822.961	8.822.961
18	0621.111	0683.704	0747.704	0815.046	8.822.961	8.822.961	8.822.961	8.822.961
19	0622.120	0684.790	0748.790	0816.166	8.822.961	8.822.961	8.822.961	8.822.961
20	0623.131	0685.876	0749.876	0817.286	8.822.961	8.822.961	8.822.961	8.822.961
21	0624.142	0686.962	0750.962	0818.406	8.822.961	8.822.961	8.822.961	8.822.961
22	0625.154	0688.048	0751.048	0819.526	8.822.961	8.822.961	8.822.961	8.822.961
23	0626.167	0689.134	0752.134	0820.646	8.822.961	8.822.961	8.822.961	8.822.961
24	0627.180	0690.220	0753.220	0821.766	8.822.961	8.822.961	8.822.961	8.822.961
25	0628.194	0691.306	0754.306	0822.886	8.822.961	8.822.961	8.822.961	8.822.961
26	0629.208	0692.392	0755.392	0824.006	8.822.961	8.822.961	8.822.961	8.822.961
27	0630.223	0693.478	0756.478	0825.126	8.822.961	8.822.961	8.822.961	8.822.961
28	0631.242	0694.564	0757.564	0826.246	8.822.961	8.822.961	8.822.961	8.822.961
29	0632.260	0695.650	0758.650	0827.366	8.822.961	8.822.961	8.822.961	8.822.961
30	0633.278	0696.736	0759.736	0828.486	8.822.961	8.822.961	8.822.961	8.822.961
31	0634.297	0697.822	0760.822	0829.606	8.822.961	8.822.961	8.822.961	8.822.961
32	0635.317	0698.908	0761.908	0830.726	8.822.961	8.822.961	8.822.961	8.822.961
33	0636.338	0699.994	0762.994	0831.846	8.822.961	8.822.961	8.822.961	8.822.961
34	0637.359	0701.080	0764.080	0832.966	8.822.961	8.822.961	8.822.961	8.822.961
35	0638.382	0702.166	0765.166	0834.086	8.822.961	8.822.961	8.822.961	8.822.961
36	0639.405	0703.252	0766.252	0835.206	8.822.961	8.822.961	8.822.961	8.822.961
37	0640.429	0704.338	0767.338	0836.326	8.822.961	8.822.961	8.822.961	8.822.961
38	0641.453	0705.424	0768.424	0837.446	8.822.961	8.822.961	8.822.961	8.822.961
39	0642.479	0706.510	0769.510	0838.566	8.822.961	8.822.961	8.822.961	8.822.961
40	0643.505	0707.596	0770.596	0839.686	8.822.961	8.822.961	8.822.961	8.822.961
41	0644.530	0708.682	0771.682	0840.806	8.822.961	8.822.961	8.822.961	8.822.961
42	0645.556	0709.768	0772.768	0841.926	8.822.961	8.822.961	8.822.961	8.822.961
43	0646.581	0710.854	0773.854	0843.046	8.822.961	8.822.961	8.822.961	8.822.961
44	0647.607	0711.940	0774.940	0844.166	8.822.961	8.822.961	8.822.961	8.822.961
45	0648.634	0713.026	0776.026	0845.286	8.822.961	8.822.961	8.822.961	8.822.961
46	0649.662	0714.112	0777.112	0846.406	8.822.961	8.822.961	8.822.961	8.822.961
47	0650.690	0715.198	0778.198	0847.526	8.822.961	8.822.961	8.822.961	8.822.961
48	0651.717	0716.284	0779.284	0848.646	8.822.961	8.822.961	8.822.961	8.822.961
49	0652.744	0717.370	0780.370	0849.766	8.822.961	8.822.961	8.822.961	8.822.961
50	0653.771	0718.456	0781.456	0850.886	8.822.961	8.822.961	8.822.961	8.822.961
51	0654.800	0719.542	0782.542	0852.006	8.822.961	8.822.961	8.822.961	8.822.961
52	0655.828	0720.628	0783.628	0853.126	8.822.961	8.822.961	8.822.961	8.822.961
53	0656.857	0721.714	0784.714	0854.246	8.822.961	8.822.961	8.822.961	8.822.961
54	0657.885	0722.800	0785.800	0855.366	8.822.961	8.822.961	8.822.961	8.822.961
55	0658.914	0723.886	0786.886	0856.486	8.822.961	8.822.961	8.822.961	8.822.961
56	0659.942	0724.972	0787.972	0857.606	8.822.961	8.822.961	8.822.961	8.822.961
57	0660.971	0726.058	0789.058	0858.726	8.822.961	8.822.961	8.822.961	8.822.961
58	0661.000	0727.144	0790.144	0859.846	8.822.961	8.822.961	8.822.961	8.822.961
59	0662.028	0728.230	0791.230	0860.966	8.822.961	8.822.961	8.822.961	8.822.961
60	0663.057	0729.316	0792.316	0862.086	8.822.961	8.822.961	8.822.961	8.822.961

Sines, and their Logarithms.									
M	L	73	L	72	L	71	L	70	M
60	9.8595960	9.849674	9.8399381	743.637	707.6283	699.830	674.4318	60	70
59	9.8596283	9.8496643	9.8399394	740.831	707.3101	699.704	674.1168	59	70
58	9.8596606	9.8496543	9.8399407	738.025	706.9919	699.588	673.8018	58	70
57	9.8596929	9.8496443	9.8399419	735.219	706.6737	699.472	673.4868	57	70
56	9.8597252	9.8496343	9.8399432	732.413	706.3555	699.356	673.1718	56	70
55	9.8597575	9.8496243	9.8399444	729.607	706.0373	699.240	672.8568	55	70
54	9.8597898	9.8496143	9.8399457	726.801	705.7191	699.124	672.5418	54	70
53	9.8598221	9.8496043	9.8399469	723.995	705.4009	699.008	672.2268	53	70
52	9.8598544	9.8495943	9.8399482	721.189	705.0827	698.892	671.9118	52	70
51	9.8598867	9.8495843	9.8399494	718.383	704.7645	698.776	671.5968	51	70
50	9.8599190	9.8495743	9.8399507	715.577	704.4463	698.660	671.2818	50	70
49	9.8599513	9.8495643	9.8399519	712.771	704.1281	698.544	670.9668	49	70
48	9.8599836	9.8495543	9.8399532	709.965	703.8099	698.428	670.6518	48	70
47	9.8600159	9.8495443	9.8399544	707.159	703.4917	698.312	670.3368	47	70
46	9.8600482	9.8495343	9.8399557	704.353	703.1735	698.196	670.0218	46	70
45	9.8600805	9.8495243	9.8399569	701.547	702.8553	698.080	669.7068	45	70
44	9.8601128	9.8495143	9.8399582	698.741	702.5371	697.964	669.3918	44	70
43	9.8601451	9.8495043	9.8399594	695.935	702.2189	697.848	669.0768	43	70
42	9.8601774	9.8494943	9.8399607	693.129	701.9007	697.732	668.7618	42	70
41	9.8602097	9.8494843	9.8399619	690.323	701.5825	697.616	668.4468	41	70
40	9.8602420	9.8494743	9.8399632	687.517	701.2643	697.500	668.1318	40	70
39	9.8602743	9.8494643	9.8399644	684.711	700.9461	697.384	667.8168	39	70
38	9.8603066	9.8494543	9.8399657	681.905	700.6279	697.268	667.5018	38	70
37	9.8603389	9.8494443	9.8399669	679.099	700.3097	697.152	667.1868	37	70
36	9.8603712	9.8494343	9.8399682	676.293	700.0000	697.036	666.8718	36	70
35	9.8604035	9.8494243	9.8399694	673.487	699.6818	696.920	666.5568	35	70
34	9.8604358	9.8494143	9.8399707	670.681	699.3636	696.804	666.2418	34	70
33	9.8604681	9.8494043	9.8399719	667.875	699.0454	696.688	665.9268	33	70
32	9.8605004	9.8493943	9.8399732	665.069	698.7272	696.572	665.6118	32	70
31	9.8605327	9.8493843	9.8399744	662.263	698.4090	696.456	665.2968	31	70
30	9.8605650	9.8493743	9.8399757	659.457	698.0908	696.340	664.9818	30	70
29	9.8605973	9.8493643	9.8399769	656.651	697.7726	696.224	664.6668	29	70
28	9.8606296	9.8493543	9.8399782	653.845	697.4544	696.108	664.3518	28	70
27	9.8606619	9.8493443	9.8399794	651.039	697.1362	695.992	664.0368	27	70
26	9.8606942	9.8493343	9.8399807	648.233	696.8180	695.876	663.7218	26	70
25	9.8607265	9.8493243	9.8399819	645.427	696.5000	695.760	663.4068	25	70
24	9.8607588	9.8493143	9.8399832	642.621	696.1818	695.644	663.0918	24	70
23	9.8607911	9.8493043	9.8399844	639.815	695.8636	695.528	662.7768	23	70
22	9.8608234	9.8492943	9.8399857	637.009	695.5454	695.412	662.4618	22	70
21	9.8608557	9.8492843	9.8399869	634.203	695.2272	695.296	662.1468	21	70
20	9.8608880	9.8492743	9.8399882	631.397	694.9090	695.180	661.8318	20	70
19	9.8609203	9.8492643	9.8399894	628.591	694.5908	695.064	661.5168	19	70
18	9.8609526	9.8492543	9.8399907	625.785	694.2726	694.948	661.2018	18	70
17	9.8609849	9.8492443	9.8399919	622.979	693.9544	694.832	660.8868	17	70
16	9.8610172	9.8492343	9.8399932	620.173	693.6362	694.716	660.5718	16	70
15	9.8610495	9.8492243	9.8399944	617.367	693.3180	694.600	660.2568	15	70
14	9.8610818	9.8492143	9.8399957	614.561	693.0000	694.484	659.9418	14	70
13	9.8611141	9.8492043	9.8399969	611.755	692.6818	694.368	659.6268	13	70
12	9.8611464	9.8491943	9.8399982	608.949	692.3636	694.252	659.3118	12	70
11	9.8611787	9.8491843	9.8399994	606.143	692.0454	694.136	658.9968	11	70
10	9.8612110	9.8491743	9.8399997	603.337	691.7272	694.020	658.6818	10	70
9	9.8612433	9.8491643	9.8399999	600.531	691.4090	693.904	658.3668	9	70
8	9.8612756	9.8491543	9.8399999	597.725	691.0908	693.788	658.0518	8	70
7	9.8613079	9.8491443	9.8399999	594.919	690.7726	693.672	657.7368	7	70
6	9.8613402	9.8491343	9.8399999	592.113	690.4544	693.556	657.4218	6	70
5	9.8613725	9.8491243	9.8399999	589.307	690.1362	693.440	657.1068	5	70
4	9.8614048	9.8491143	9.8399999	586.501	689.8180	693.324	656.7918	4	70
3	9.8614371	9.8491043	9.8399999	583.695	689.5000	693.208	656.4768	3	70
2	9.8614694	9.8490943	9.8399999	580.889	689.1818	693.092	656.1618	2	70
1	9.8615017	9.8490843	9.8399999	578.083	688.8636	692.976	655.8468	1	70

Dec: 73, 72, 71, 70

Sines, and their Logarithms.

Deg. 57, 56, 55, 54

M	L. 57	L. 56	L. 55	L. 54	N. 57	N. 56	N. 55	N. 54	M
60	9.6721725	9.6583558	9.6442486	9.6298412	4700.808	4553.610	4408.071	4264.236	60
59	9.6719445	9.6581230	9.6440109	9.6295984	4698.341	4551.171	4405.660	4261.853	59
58	9.6717165	9.6578903	9.6437732	9.6293557	4695.875	4548.732	4403.249	4259.471	58
57	9.6714883	9.6576574	9.6435354	9.6291127	4693.409	4546.293	4400.839	4257.089	57
56	9.6712602	9.6574245	9.6432975	9.6288698	4690.944	4543.855	4398.429	4254.708	56
55	9.6710319	9.6571914	9.6430595	9.6286267	4688.479	4541.417	4396.019	4252.328	55
54	9.6708036	9.6569583	9.6428215	9.6283836	4686.015	4538.980	4393.610	4249.948	54
53	9.6705751	9.6567251	9.6425833	9.6281403	4683.551	4536.543	4391.202	4247.568	53
52	9.6703467	9.6564918	9.6423452	9.6278970	4681.087	4534.108	4388.794	4245.189	52
51	9.6701181	9.6562584	9.6421068	9.6276535	4678.624	4531.672	4386.386	4242.810	51
50	9.6698895	9.6560250	9.6418685	9.6274101	4676.161	4529.237	4383.979	4240.432	50
49	9.6696607	9.6557915	9.6416299	9.6271664	4673.699	4526.802	4381.573	4238.054	49
48	9.6694319	9.6555579	9.6413914	9.6269228	4671.237	4524.368	4379.167	4235.677	48
47	9.6692030	9.6553242	9.6411527	9.6266790	4668.776	4521.934	4376.761	4233.300	47
46	9.6689741	9.6550904	9.6409141	9.6264352	4666.315	4519.501	4374.355	4230.924	46
45	9.6687450	9.6548566	9.6406752	9.6261912	4663.855	4517.068	4371.951	4228.548	45
44	9.6685159	9.6546227	9.6404364	9.6259473	4661.395	4514.636	4369.547	4226.173	44
43	9.6682867	9.6543886	9.6401973	9.6257031	4658.935	4512.204	4367.143	4223.798	43
42	9.6680574	9.6541546	9.6399583	9.6254589	4656.476	4509.772	4364.740	4221.424	42
41	9.6678280	9.6539204	9.6397191	9.6252146	4654.017	4507.341	4362.337	4219.050	41
40	9.6675986	9.6536861	9.6394800	9.6249703	4651.559	4504.910	4359.934	4216.676	40
39	9.6673691	9.6534518	9.6392406	9.6247258	4649.102	4502.480	4357.532	4214.303	39
38	9.6671395	9.6532174	9.6390012	9.6244813	4646.645	4500.050	4355.131	4211.931	38
37	9.6669098	9.6529828	9.6387617	9.6242366	4644.188	4497.621	4352.730	4209.559	37
36	9.6666801	9.6527483	9.6385222	9.6239919	4641.732	4495.192	4350.330	4207.188	36
35	9.6664502	9.6525136	9.6382825	9.6237471	4639.276	4492.764	4347.930	4204.817	35
34	9.6662203	9.6522789	9.6380428	9.6235022	4636.821	4490.336	4345.531	4202.447	34
33	9.6659903	9.6520440	9.6378030	9.6232572	4634.366	4487.909	4343.132	4200.077	33
32	9.6657603	9.6518092	9.6375633	9.6230122	4631.912	4485.482	4340.734	4197.708	32
31	9.6655301	9.6515741	9.6373231	9.6227670	4629.458	4483.056	4338.336	4195.339	31
30	9.6652989	9.6513391	9.6370830	9.6225218	4627.004	4480.630	4335.938	4192.970	30
29	9.6650695	9.6511039	9.6368428	9.6222764	4624.551	4478.205	4333.541	4190.602	29
28	9.6648392	9.6508687	9.6366016	9.6220311	4622.098	4475.780	4331.144	4188.234	28
27	9.6646087	9.6506333	9.6363623	9.6217855	4619.646	4473.355	4328.748	4185.867	27
26	9.6643781	9.6503980	9.6361219	9.6215400	4617.194	4470.931	4326.352	4183.501	26
25	9.6641475	9.6501625	9.6358813	9.6212942	4614.742	4468.507	4323.957	4181.135	25
24	9.6639168	9.6499269	9.6356408	9.6210485	4612.291	4466.084	4321.562	4178.770	24
23	9.6636860	9.6496912	9.6354001	9.6208026	4609.841	4463.662	4319.168	4176.405	23
22	9.6634552	9.6494556	9.6351594	9.6205567	4607.391	4461.240	4316.774	4174.041	22
21	9.6632242	9.6492197	9.6349185	9.6203106	4604.942	4458.818	4314.381	4171.677	21
20	9.6629932	9.6489839	9.6346776	9.6200645	4602.493	4456.397	4311.988	4169.313	20
19	9.6627620	9.6487478	9.6344366	9.6198183	4600.045	4453.976	4309.596	4166.950	19
18	9.6625309	9.6485118	9.6341955	9.6195720	4597.597	4451.555	4307.204	4164.588	18
17	9.6622996	9.6482756	9.6339543	9.6193256	4595.149	4449.136	4304.813	4162.226	17
16	9.6620683	9.6480394	9.6337131	9.6190792	4592.702	4446.717	4302.422	4159.864	16
15	9.6618368	9.6478031	9.6334717	9.6188326	4590.255	4444.298	4300.032	4157.503	15
14	9.6616053	9.6475667	9.6332303	9.6185860	4587.809	4441.880	4297.642	4155.141	14
13	9.6613737	9.6473302	9.6329887	9.6183392	4585.363	4439.462	4295.253	4152.782	13
12	9.6611421	9.6470937	9.6327472	9.6180924	4582.918	4437.044	4292.864	4150.422	12
11	9.6609103	9.6468570	9.6325054	9.6178454	4580.473	4434.627	4290.476	4148.065	11
10	9.6606785	9.6466204	9.6322637	9.6175985	4578.028	4432.210	4288.088	4145.705	10
9	9.6604466	9.6463835	9.6320218	9.6173513	4575.584	4429.794	4285.701	4143.347	9
8	9.6602146	9.6461467	9.6317799	9.6171042	4573.141	4427.378	4283.314	4140.990	8
7	9.6599825	9.6459097	9.6315378	9.6168569	4570.698	4424.963	4280.928	4138.633	7
6	9.6597504	9.6456726	9.6312957	9.6166096	4568.255	4422.548	4278.542	4136.276	6
5	9.6595181	9.6454355	9.6310535	9.6163621	4565.813	4420.134	4276.156	4133.920	5
4	9.6592858	9.6451983	9.6308112	9.6161146	4563.371	4417.720	4273.771	4131.564	4
3	9.6590534	9.6449609	9.6305688	9.6158669	4560.930	4415.307	4271.387	4129.209	3
2	9.6588210	9.6447236	9.6303264	9.6156192	4558.490	4412.894	4269.003	4126.855	2
1	9.6585884	9.6444861	9.6300838	9.6153714	4556.050	4410.482	4266.619	4124.501	1
0	9.6583558	9.6442486	9.6298412	9.6151235	4553.610	4408.071	4264.236	4122.148	0

Deg. 36, 37, 38, 39.
 A Table of Natural Veried

M	N. 36	N. 37	N. 38	N. 39	L. 36	L. 37	L. 38	L. 39	M
0	1909.830	2013.645	2119.892	2228.540	9.2809947	9.3039829	9.3263138	9.3486205	0
1	1911.540	2015.396	2121.884	2230.371	9.2813333	9.3043603	9.3266805	9.3483771	1
2	1913.251	2017.147	2123.476	2232.203	9.2817720	9.3047376	9.3270473	9.3481337	2
3	1914.962	2018.900	2125.268	2234.035	9.2821602	9.3051147	9.3274136	9.3490899	3
4	1916.673	2020.653	2127.061	2235.868	9.2825484	9.3054917	9.3277800	9.3494462	4
5	1918.388	2022.406	2128.853	2237.702	9.2829363	9.3058683	9.3281460	9.3498021	5
6	1920.101	2024.161	2130.650	2239.536	9.2833241	9.3062450	9.3285121	9.3501586	6
7	1921.815	2025.916	2132.445	2241.371	9.2837116	9.3066213	9.3288778	9.3505136	7
8	1923.530	2027.671	2134.241	2243.206	9.2840990	9.3069976	9.3292434	9.3508692	8
9	1925.246	2029.428	2136.037	2245.043	9.2844861	9.3073735	9.3296088	9.3512245	9
10	1926.962	2031.185	2137.835	2246.879	9.2848732	9.3077494	9.3299741	9.3515798	10
11	1928.679	2032.942	2139.633	2248.717	9.2852599	9.3081250	9.3303391	9.3519347	11
12	1930.393	2034.701	2141.431	2250.555	9.2856466	9.3085006	9.3307042	9.3522897	12
13	1932.115	2036.460	2143.230	2252.394	9.2860329	9.3088758	9.3310688	9.3526443	13
14	1933.834	2038.220	2145.030	2254.233	9.2864192	9.3092510	9.3314334	9.3529989	14
15	1935.554	2039.980	2146.831	2256.074	9.2868052	9.3096258	9.3317977	9.3533532	15
16	1937.274	2041.741	2148.632	2257.914	9.2871911	9.3100007	9.3321620	9.3537075	16
17	1938.995	2043.503	2150.434	2259.756	9.2875767	9.3103752	9.3325260	9.3540614	17
18	1940.717	2045.265	2152.236	2261.598	9.2879622	9.3107496	9.3328900	9.3544154	18
19	1942.440	2047.028	2154.039	2263.441	9.2883474	9.3111238	9.3332536	9.3547690	19
20	1944.163	2048.792	2155.842	2265.284	9.2887326	9.3114979	9.3336172	9.3551227	20
21	1945.887	2050.556	2157.648	2267.128	9.2891174	9.3118716	9.3339808	9.3554760	21
22	1947.611	2052.322	2159.453	2268.973	9.2895022	9.3122454	9.3343438	9.3558293	22
23	1949.336	2054.087	2161.259	2270.818	9.2898866	9.3126188	9.3347067	9.3561823	23
24	1951.062	2055.854	2163.065	2272.664	9.2902711	9.3129922	9.3350697	9.3565353	24
25	1952.789	2057.621	2164.873	2274.511	9.2906551	9.3133653	9.3354323	9.3568880	25
26	1954.516	2059.389	2166.680	2276.358	9.2910392	9.3137383	9.3357949	9.3572406	26
27	1956.244	2061.157	2168.489	2278.206	9.2914229	9.3141110	9.3361571	9.3575930	27
28	1957.972	2062.926	2170.298	2280.055	9.2918065	9.3144837	9.3365194	9.3579453	28
29	1959.701	2064.696	2172.108	2281.904	9.2921898	9.3148561	9.3368815	9.3582973	29
30	1961.431	2066.467	2173.918	2283.754	9.2925731	9.3152284	9.3372432	9.3586494	30
31	1963.162	2068.238	2175.730	2285.605	9.2929560	9.3156004	9.3376043	9.3590011	31
32	1964.893	2070.010	2177.545	2287.456	9.2933390	9.3159724	9.3379664	9.3593528	32
33	1966.625	2071.782	2179.354	2289.308	9.2937215	9.3163440	9.3383277	9.3597041	33
34	1968.358	2073.555	2181.161	2291.160	9.2941041	9.3167156	9.3386889	9.3600553	34
35	1970.091	2075.329	2182.981	2293.014	9.2944862	9.3170869	9.3390498	9.3604063	35
36	1971.825	2077.104	2184.795	2294.868	9.2948684	9.3174582	9.3394107	9.3607576	36
37	1973.560	2078.879	2186.610	2296.722	9.2952502	9.3178291	9.3397713	9.3611084	37
38	1975.295	2080.655	2188.426	2298.577	9.2956320	9.3182000	9.3401319	9.3614591	38
39	1977.031	2082.431	2190.243	2300.433	9.2960135	9.3185706	9.3404921	9.3618095	39
40	1978.768	2084.208	2192.060	2302.290	9.2963949	9.3189413	9.3408524	9.3621599	40
41	1980.505	2085.986	2193.877	2304.147	9.2967760	9.3193113	9.3412123	9.3625100	41
42	1982.244	2087.765	2195.696	2306.004	9.2971570	9.3196815	9.3415722	9.3628601	42
43	1983.982	2089.544	2197.515	2307.863	9.2975377	9.3200514	9.3419318	9.3632099	43
44	1985.722	2091.324	2199.335	2309.722	9.2979184	9.3204212	9.3422913	9.3635597	44
45	1987.462	2093.104	2201.155	2311.582	9.2982987	9.3207903	9.3426506	9.3639092	45
46	1989.203	2094.885	2202.976	2313.442	9.2986790	9.3211603	9.3430098	9.3642586	46
47	1990.944	2096.667	2204.798	2315.303	9.2990590	9.3215294	9.3433687	9.3646078	47
48	1992.686	2098.450	2206.620	2317.165	9.2994389	9.3218986	9.3437276	9.3649569	48
49	1994.429	2100.233	2208.443	2319.027	9.2998185	9.3222674	9.3440862	9.3653057	49
50	1996.173	2102.017	2210.267	2320.890	9.3001981	9.3226362	9.3444444	9.3656546	50
51	1997.917	2103.802	2212.093	2322.754	9.3005773	9.3230047	9.3448030	9.3660031	51
52	1999.662	2105.587	2213.916	2324.618	9.3009565	9.3233731	9.3451612	9.3663516	52
53	2001.407	2107.373	2215.742	2326.483	9.3013354	9.3237412	9.3455191	9.3666998	53
54	2003.154	2109.159	2217.569	2328.348	9.3017142	9.3241094	9.3458770	9.3670480	54
55	2004.900	2110.946	2219.396	2330.215	9.3020927	9.3244771	9.3462346	9.3673959	55
56	2006.648	2112.734	2221.223	2332.082	9.3024712	9.3248449	9.3465921	9.3677437	56
57	2008.396	2114.523	2223.051	2333.949	9.3028493	9.3252123	9.3469494	9.3680913	57
58	2010.145	2116.312	2224.880	2335.817	9.3032274	9.3255797	9.3473067	9.3684389	58
59	2011.895	2118.102	2226.710	2337.686	9.3036051	9.3259468	9.3476636	9.3687861	59
60	2013.645	2119.892	2228.540	2339.556	9.3039829	9.3263138	9.3480205	9.3691334	60

Sines, and their Logarithms.

Deg. 53. 52. 51. 50

M	L. 53	L. 52	L. 51	L. 50	N. 53	N. 52	N. 51	N. 50	M
60	9.6151235	9.6000849	9.5847139	9.5689987	4122.148	3981.850	3843.385	3706.796	60
59	9.6148755	9.5998314	9.5844548	9.5687337	4119.795	3979.525	3841.093	3704.536	59
58	9.6146275	9.5995779	9.5841957	9.5684688	4117.442	3977.204	3838.802	3702.276	58
57	9.6143793	9.5993243	9.5839364	9.5682036	4115.090	3974.882	3836.511	3700.017	57
56	9.6141311	9.5990706	9.5836771	9.5679385	4112.738	3972.561	3834.220	3697.758	56
55	9.6138827	9.5988168	9.5834176	9.5676731	4110.387	3970.240	3831.930	3695.499	55
54	9.6136343	9.5985629	9.5831581	9.5674078	4108.036	3967.920	3829.641	3693.241	54
53	9.6133857	9.5983089	9.5828984	9.5671422	4105.686	3965.600	3827.352	3690.984	53
52	9.6131372	9.5980549	9.5826387	9.5668766	4103.336	3963.281	3825.064	3688.727	52
51	9.6128884	9.5978007	9.5823788	9.5666109	4100.987	3960.962	3822.776	3686.471	51
50	9.6126397	9.5975464	9.5821190	9.5663451	4098.639	3958.643	3820.488	3684.216	50
49	9.6123907	9.5972920	9.5818589	9.5660792	4096.291	3956.325	3818.201	3681.961	49
48	9.6121418	9.5970376	9.5815988	9.5658132	4093.944	3954.008	3815.915	3679.707	48
47	9.6118927	9.5967831	9.5813385	9.5655471	4091.597	3951.691	3813.629	3677.453	47
46	9.6116436	9.5965285	9.5810783	9.5652804	4089.250	3949.375	3811.344	3675.200	46
45	9.6113943	9.5962737	9.5808178	9.5650154	4086.904	3947.060	3809.060	3672.947	45
44	9.6111451	9.5960189	9.5805574	9.5647482	4084.558	3944.745	3806.776	3670.695	44
43	9.6108956	9.5957640	9.5802967	9.5644817	4082.213	3942.430	3804.492	3668.443	43
42	9.6106461	9.5955090	9.5800361	9.5642151	4079.868	3940.116	3802.209	3666.192	42
41	9.6103965	9.5952539	9.5797752	9.5639484	4077.524	3937.802	3799.926	3663.941	41
40	9.6101469	9.5949987	9.5795144	9.5636816	4075.180	3935.489	3797.644	3661.690	40
39	9.6098970	9.5947434	9.5792533	9.5634147	4072.837	3933.176	3795.362	3659.440	39
38	9.6096470	9.5944881	9.5789923	9.5631477	4070.495	3930.864	3793.081	3657.191	38
37	9.6093972	9.5942325	9.5787311	9.5628805	4068.153	3928.552	3790.801	3654.942	37
36	9.6091472	9.5939770	9.5784698	9.5626134	4065.811	3926.241	3788.521	3652.694	36
35	9.6088970	9.5937213	9.5782084	9.5623460	4063.470	3923.931	3786.242	3650.447	35
34	9.6086468	9.5934656	9.5779470	9.5620787	4061.129	3921.621	3783.963	3648.200	34
33	9.6083965	9.5932097	9.5776854	9.5618111	4058.789	3919.312	3781.685	3645.954	33
32	9.6081461	9.5929538	9.5774237	9.5615436	4056.449	3917.003	3779.407	3643.708	32
31	9.6078956	9.5926977	9.5771619	9.5612758	4054.110	3914.694	3777.130	3641.463	31
30	9.6076450	9.5924417	9.5769001	9.5610080	4051.772	3912.386	3774.854	3639.218	30
29	9.6073943	9.5921854	9.5766381	9.5607401	4049.434	3910.078	3772.578	3636.974	29
28	9.6071436	9.5919291	9.5763761	9.5604721	4047.096	3907.771	3770.302	3634.730	28
27	9.6068927	9.5916727	9.5761139	9.5602040	4044.759	3905.464	3768.027	3632.487	27
26	9.6066417	9.5914162	9.5758517	9.5599358	4042.422	3903.158	3765.752	3630.244	26
25	9.6063907	9.5911599	9.5755893	9.5596674	4040.086	3900.853	3763.478	3628.001	25
24	9.6061396	9.5909029	9.5753269	9.5593991	4037.750	3898.548	3761.204	3625.759	24
23	9.6058883	9.5906461	9.5750643	9.5591305	4035.415	3896.244	3758.931	3623.518	23
22	9.6056370	9.5903893	9.5748017	9.5588619	4033.081	3893.940	3756.658	3621.278	22
21	9.6053856	9.5901322	9.5745389	9.5585932	4030.747	3891.636	3754.386	3619.038	21
20	9.6051341	9.5898752	9.5742761	9.5583244	4028.414	3889.333	3752.115	3616.799	20
19	9.6048825	9.5896180	9.5740131	9.5580554	4026.081	3887.030	3749.844	3614.560	19
18	9.6046308	9.5893608	9.5737502	9.5577864	4023.749	3884.728	3747.574	3612.322	18
17	9.6043790	9.5891034	9.5734870	9.5575173	4021.417	3882.427	3745.304	3610.084	17
16	9.6041272	9.5888460	9.5732238	9.5572481	4019.083	3880.127	3743.034	3607.847	16
15	9.6038752	9.5885884	9.5729604	9.5569787	4016.754	3877.827	3740.765	3605.610	15
14	9.6036232	9.5883308	9.5726970	9.5567093	4014.423	3875.527	3738.497	3603.374	14
13	9.6033710	9.5880730	9.5724335	9.5564397	4012.093	3873.228	3736.229	3601.138	13
12	9.6031188	9.5878153	9.5721699	9.5561701	4009.763	3870.929	3733.962	3598.903	12
11	9.6028664	9.5875573	9.5719061	9.5559004	4007.434	3868.631	3731.695	3596.668	11
10	9.6026143	9.5872993	9.5716423	9.5556306	4005.106	3866.333	3729.428	3594.434	10
9	9.6023615	9.5870412	9.5713784	9.5553606	4002.778	3864.035	3727.162	3592.201	9
8	9.6021090	9.5867830	9.5711144	9.5550906	4000.451	3861.739	3724.897	3589.968	8
7	9.6018562	9.5865247	9.5708502	9.5548204	3998.124	3859.443	3722.632	3587.736	7
6	9.6016035	9.5862663	9.5705861	9.5545502	3995.798	3857.147	3720.368	3585.504	6
5	9.6013506	9.5860078	9.5703217	9.5542798	3993.472	3854.852	3718.105	3583.272	5
4	9.6010976	9.5857492	9.5700573	9.5540094	3991.147	3852.555	3715.842	3581.041	4
3	9.6008446	9.5854905	9.5697928	9.5537388	3988.822	3850.264	3713.580	3578.811	3
2	9.6005914	9.5852318	9.5695282	9.5534681	3986.498	3847.970	3711.318	3576.583	2
1	9.6003382	9.5849728	9.5692635	9.5531973	3984.174	3845.677	3709.057	3574.357	1
0	9.6000849	9.5847139	9.5689987	9.5529265	3981.850	3843.385	3706.796	3572.124	0

Deg. 40, 41, 42, 43.

A Table of Natural Veried

M	N. 40	N. 41	N. 42	N. 43	L. 40	L. 41	L. 42	L. 43	M
0	2339.556	2452.904	2568.552	2686.463	9.3691334	9.3896806	9.4096883	9.4291808	0
1	2341.426	2454.813	2570.498	2688.447	9.3694803	9.3900183	9.4100173	9.4295015	1
2	2343.296	2456.722	2572.446	2690.432	9.3698272	9.3903561	9.4103462	9.4298220	2
3	2345.168	2458.632	2574.394	2692.417	9.3701739	9.3906935	9.4106749	9.4301424	3
4	2347.040	2460.543	2576.342	2694.403	9.3705205	9.3910309	9.4110036	9.4304626	4
5	2348.913	2462.454	2578.292	2696.390	9.3708668	9.3913681	9.4113320	9.4307827	5
6	2350.786	2464.366	2580.242	2698.377	9.3712111	9.3917052	9.4116603	9.4311026	6
7	2352.660	2466.279	2582.193	2700.365	9.3715591	9.3920421	9.4119885	9.4314224	7
8	2354.535	2468.192	2584.143	2702.354	9.3719051	9.3923789	9.4123166	9.4317423	8
9	2356.410	2470.106	2586.095	2704.343	9.3722508	9.3927155	9.4126444	9.4320617	9
10	2358.286	2472.020	2588.047	2706.332	9.3725964	9.3930520	9.4129722	9.4323811	10
11	2360.162	2473.935	2590.000	2708.323	9.3729418	9.3933882	9.4132998	9.4327004	11
12	2362.040	2475.851	2591.954	2710.314	9.3732872	9.3937245	9.4136273	9.4330195	12
13	2363.918	2477.767	2593.908	2712.305	9.3736323	9.3940604	9.4139546	9.4333385	13
14	2365.796	2479.684	2595.863	2714.297	9.3739773	9.3943964	9.4142818	9.4336574	14
15	2367.675	2481.602	2597.819	2716.290	9.3743221	9.3947310	9.4146088	9.4339761	15
16	2369.555	2483.520	2599.775	2718.284	9.3746668	9.3950677	9.4149357	9.4342948	16
17	2371.436	2485.439	2601.732	2720.278	9.3750113	9.3954031	9.4152625	9.4346132	17
18	2373.317	2487.359	2603.689	2722.272	9.3753557	9.3957384	9.4155891	9.4349316	18
19	2375.198	2489.279	2605.647	2724.268	9.3756998	9.3960735	9.4159155	9.4352497	19
20	2377.081	2491.200	2607.606	2726.264	9.3760440	9.3964085	9.4162419	9.4355678	20
21	2378.964	2493.121	2609.565	2728.260	9.3763878	9.3967433	9.4165681	9.4358857	21
22	2380.848	2495.043	2611.525	2730.257	9.3767316	9.3970781	9.4168941	9.4362035	22
23	2382.732	2496.966	2613.485	2732.255	9.3770751	9.3974125	9.4172199	9.4365212	23
24	2384.617	2498.889	2615.447	2734.253	9.3774186	9.3977470	9.4175458	9.4368387	24
25	2386.503	2500.813	2617.408	2736.252	9.3777618	9.3980812	9.4178715	9.4371561	25
26	2388.389	2502.738	2619.371	2738.252	9.3781050	9.3984154	9.4181970	9.4374734	26
27	2390.276	2504.663	2621.334	2740.252	9.3784479	9.3987493	9.4185223	9.4377904	27
28	2392.163	2506.589	2623.297	2742.253	9.3787908	9.3990831	9.4188475	9.4381075	28
29	2394.051	2508.516	2625.262	2744.254	9.3791334	9.3994167	9.4191726	9.4384243	29
30	2395.940	2510.443	2627.227	2746.256	9.3794760	9.3997503	9.4194975	9.4387410	30
31	2397.830	2512.371	2629.192	2748.259	9.3798183	9.4000836	9.4198223	9.4390576	31
32	2399.720	2514.299	2631.158	2750.262	9.3801606	9.4004169	9.4201470	9.4393741	32
33	2401.611	2516.228	2633.125	2752.266	9.3805025	9.4007499	9.4204714	9.4396904	33
34	2403.502	2518.158	2635.092	2754.271	9.3808445	9.4010829	9.4207958	9.4400066	34
35	2405.394	2520.088	2637.060	2756.276	9.3811862	9.4014157	9.4211201	9.4403226	35
36	2407.287	2522.019	2639.029	2758.281	9.3815279	9.4017484	9.4214442	9.4406385	36
37	2409.180	2523.951	2640.998	2760.288	9.3818692	9.4020808	9.4217681	9.4409543	37
38	2411.074	2525.883	2642.968	2762.295	9.3822106	9.4024132	9.4220919	9.4412700	38
39	2412.969	2527.816	2644.939	2764.302	9.3825515	9.4027453	9.4224156	9.4415855	39
40	2414.864	2529.749	2646.910	2766.310	9.3828927	9.4030775	9.4227391	9.4419009	40
41	2416.760	2531.683	2648.882	2768.319	9.3832331	9.4034093	9.4230625	9.4422161	41
42	2418.657	2533.618	2650.854	2770.329	9.3835742	9.4037412	9.4233858	9.4425313	42
43	2420.554	2535.554	2652.827	2772.339	9.3839147	9.4040727	9.4237089	9.4428465	43
44	2422.452	2537.490	2654.801	2774.349	9.3842551	9.4044043	9.4240319	9.4431611	44
45	2424.350	2539.426	2656.775	2776.360	9.3845953	9.4047355	9.4243547	9.4434758	45
46	2426.249	2541.364	2658.750	2778.372	9.3849354	9.4050668	9.4246774	9.4437904	46
47	2428.149	2543.301	2660.725	2780.385	9.3852753	9.4053978	9.4250000	9.4441045	47
48	2430.049	2545.240	2662.701	2782.398	9.3856151	9.4057287	9.4253224	9.4444192	48
49	2431.950	2547.179	2664.678	2784.411	9.3859547	9.4060594	9.4256447	9.4447334	49
50	2433.852	2549.119	2666.655	2786.426	9.3862942	9.4063901	9.4259669	9.4450474	50
51	2435.754	2551.059	2668.633	2788.441	9.3866334	9.4067205	9.4262889	9.4453614	51
52	2437.657	2552.999	2670.612	2790.456	9.3869727	9.4070509	9.4266108	9.4456752	52
53	2439.561	2554.942	2672.591	2792.472	9.3873116	9.4073810	9.4269325	9.4459888	53
54	2441.465	2556.885	2674.571	2794.488	9.3876506	9.4077111	9.4272541	9.4463024	54
55	2443.370	2558.827	2676.551	2796.506	9.3879892	9.4080409	9.4275755	9.4466157	55
56	2445.276	2560.771	2678.533	2798.524	9.3883278	9.4083708	9.4278969	9.4469290	56
57	2447.182	2562.715	2680.514	2800.543	9.3886662	9.4087003	9.4282181	9.4472422	57
58	2449.089	2564.660	2682.497	2802.562	9.3890045	9.4090298	9.4285391	9.4475552	58
59	2450.996	2566.606	2684.479	2804.582	9.3893425	9.4093591	9.4288600	9.4478680	59
60	2452.904	2568.552	2686.463	2806.602	9.3896806	9.4096883	9.4291808	9.4481808	60

Sines, and their Logarithms.

Deg. 49, 48, 47, 46

M	L. 49	L. 48	L. 47	L. 46	N. 49	N. 48	N. 47	N. 46	M
60	9.5529265	9.5364839	9.5196566	9.5024293	3572.124	3439.410	3308.694	3180.016	60
59	9.5526555	9.5362066	9.5193727	9.5021388	3569.896	3437.215	3306.532	3177.889	59
58	9.5523845	9.5359293	9.5190889	9.5018480	3567.669	3435.021	3304.371	3175.763	58
57	9.5521131	9.5356518	9.5188048	9.5015572	3565.442	3432.827	3302.211	3173.637	57
56	9.5518420	9.5353742	9.5185207	9.5012662	3563.215	3430.633	3300.051	3171.511	56
55	9.5515706	9.5350965	9.5182364	9.5009751	3560.989	3428.440	3297.892	3169.387	55
54	9.5512992	9.5348187	9.5179521	9.5006840	3558.764	3426.247	3295.733	3167.262	54
53	9.5510275	9.5345408	9.5176576	9.5003927	3556.539	3424.055	3293.573	3165.139	53
52	9.5507559	9.5342628	9.5173730	9.5001013	3554.315	3421.864	3291.418	3163.016	52
51	9.5504840	9.5339846	9.5170984	9.4998097	3552.091	3419.674	3289.261	3160.873	51
50	9.5502122	9.5337065	9.5168136	9.4995181	3549.868	3417.484	3287.105	3158.791	50
49	9.5499401	9.5334281	9.5165286	9.4992263	3547.645	3415.295	3284.949	3156.650	49
48	9.5496681	9.5331497	9.5162436	9.4989345	3545.423	3413.106	3282.794	3154.529	48
47	9.5493958	9.5328711	9.5159585	9.4986425	3543.201	3410.918	3280.639	3152.409	47
46	9.5491236	9.5325925	9.5156731	9.4983504	3540.980	3408.730	3278.483	3150.289	46
45	9.5488511	9.5323137	9.5153879	9.4980581	3538.760	3406.542	3276.332	3148.170	45
44	9.5485786	9.5320349	9.5151024	9.4977658	3536.540	3404.355	3274.175	3146.052	44
43	9.5483059	9.5317558	9.5148168	9.4974733	3534.321	3402.169	3272.027	3143.934	43
42	9.5480333	9.5314768	9.5145311	9.4971808	3532.102	3399.984	3269.875	3141.816	42
41	9.5477604	9.5311975	9.5142453	9.4968881	3529.884	3397.799	3267.724	3139.700	41
40	9.5474875	9.5309183	9.5139594	9.4965953	3527.667	3395.614	3265.573	3137.584	40
39	9.5472144	9.5306388	9.5136733	9.4963023	3525.450	3393.430	3263.423	3135.468	39
38	9.5469411	9.5303593	9.5133872	9.4960093	3523.234	3391.247	3261.273	3133.353	38
37	9.5466680	9.5300797	9.5131009	9.4957161	3521.018	3389.064	3259.125	3131.239	37
36	9.5463947	9.5298000	9.5128146	9.4954229	3518.801	3386.882	3256.976	3129.124	36
35	9.5461212	9.5295201	9.5125280	9.4951295	3516.587	3384.700	3254.828	3127.012	35
34	9.5458477	9.5292402	9.5122415	9.4948360	3514.372	3382.519	3252.681	3124.899	34
33	9.5455740	9.5289601	9.5119547	9.4945424	3512.158	3380.339	3250.535	3122.787	33
32	9.5453002	9.5286799	9.5116679	9.4942486	3509.945	3378.159	3248.389	3120.675	32
31	9.5450263	9.5283996	9.5113810	9.4939547	3507.732	3375.979	3246.243	3118.565	31
30	9.5447524	9.5281195	9.5110939	9.4936607	3505.520	3373.800	3244.098	3116.454	30
29	9.5444783	9.5278387	9.5108068	9.4933666	3503.308	3371.621	3241.954	3114.345	29
28	9.5442041	9.5275581	9.5105195	9.4930724	3501.097	3369.443	3239.810	3112.236	28
27	9.5439299	9.5272774	9.5102321	9.4927780	3498.886	3367.266	3237.667	3110.127	27
26	9.5436554	9.5269966	9.5099446	9.4924836	3496.676	3365.089	3235.524	3108.019	26
25	9.5433809	9.5267156	9.5096569	9.4921890	3494.467	3362.913	3233.382	3105.911	25
24	9.5431063	9.5264346	9.5093692	9.4918944	3492.258	3360.737	3231.240	3103.805	24
23	9.5428315	9.5261534	9.5090813	9.4915995	3490.050	3358.562	3229.099	3101.698	23
22	9.5425568	9.5258722	9.5087934	9.4913046	3487.842	3356.388	3226.959	3099.592	22
21	9.5422818	9.5255908	9.5085053	9.4910095	3485.635	3354.214	3224.819	3097.484	21
20	9.5420068	9.5253094	9.5082172	9.4907144	3483.428	3352.041	3222.680	3095.375	20
19	9.5417316	9.5250277	9.5079288	9.4904191	3481.222	3349.868	3220.541	3093.279	19
18	9.5414564	9.5247461	9.5076404	9.4901237	3479.016	3347.696	3218.403	3091.176	18
17	9.5411810	9.5244642	9.5073519	9.4898281	3476.811	3345.524	3216.266	3089.073	17
16	9.5409056	9.5241823	9.5070633	9.4895325	3474.606	3343.353	3214.129	3086.971	16
15	9.5406300	9.5239002	9.5067745	9.4892361	3472.402	3341.183	3211.993	3084.869	15
14	9.5403544	9.5236182	9.5064856	9.4889409	3470.199	3339.013	3209.857	3082.768	14
13	9.5400786	9.5233358	9.5061966	9.4886448	3467.996	3336.844	3207.722	3080.668	13
12	9.5398027	9.5230535	9.5059075	9.4883488	3465.794	3334.675	3205.587	3078.568	12
11	9.5395267	9.5227710	9.5056183	9.4880525	3463.592	3332.507	3203.453	3076.468	11
10	9.5392507	9.5224885	9.5053290	9.4877562	3461.391	3330.339	3201.319	3074.371	10
9	9.5389744	9.5222057	9.5050395	9.4874597	3459.191	3328.172	3199.187	3072.272	9
8	9.5386982	9.5219230	9.5047500	9.4871631	3456.991	3326.006	3197.054	3070.175	8
7	9.5384217	9.5216400	9.5044603	9.4868663	3454.792	3323.840	3194.922	3068.077	7
6	9.5381452	9.5213570	9.5041705	9.4865696	3452.593	3321.674	3192.791	3065.978	6
5	9.5378686	9.5210739	9.5038806	9.4862726	3450.394	3319.509	3190.661	3063.880	5
4	9.5375919	9.5207907	9.5035906	9.4859755	3448.196	3317.345	3188.531	3061.791	4
3	9.5373150	9.5205073	9.5033005	9.4856783	3445.999	3315.182	3186.401	3059.704	3
2	9.5370381	9.5202239	9.5030102	9.4853810	3443.802	3313.019	3184.272	3057.602	2
1	9.5367610	9.5199402	9.5027198	9.4850835	3441.606	3310.856	3182.144	3055.505	1
0	9.5364839	9.5196566	9.5024293	9.4847860	3439.410	3308.694	3180.016	3053.411	0

M	N. 44	N. 45	L. 44	L. 45	L. 45	L. 44	N. 45	N. 44	M
0	2806.602	2928.932	9.4481808	9.4667093	9.4847860	9.4667093	3053.416	2928.932	60
1	2808.623	2930.989	9.4484934	9.4670142	9.4844883	9.4664041	3051.324	2926.876	59
2	2810.645	2933.047	9.4488059	9.4673190	9.4841905	9.4660991	3049.233	2924.820	58
3	2812.667	2935.106	9.4491182	9.4676237	9.4838926	9.4657937	3047.142	2922.764	57
4	2814.690	2937.165	9.4494305	9.4679283	9.4835949	9.4654883	3045.051	2920.709	56
5	2816.713	2939.224	9.4497426	9.4682326	9.4832964	9.4651828	3042.961	2918.655	55
6	2818.737	2941.284	9.4500546	9.4685370	9.4829981	9.4648771	3040.872	2916.602	54
7	2820.762	2943.345	9.4503664	9.4688411	9.4826997	9.4645713	3038.783	2914.549	53
8	2822.787	2945.406	9.4506781	9.4691452	9.4824012	9.4642654	3036.695	2912.496	52
9	2824.813	2947.468	9.4509896	9.4694491	9.4821025	9.4639593	3034.608	2910.444	51
10	2826.839	2949.531	9.4513011	9.4697530	9.4818038	9.4636531	3032.521	2908.393	50
11	2828.866	2951.594	9.4516123	9.4700566	9.4815049	9.4633468	3030.435	2906.342	49
12	2830.894	2953.658	9.4519236	9.4703602	9.4812059	9.4630404	3028.349	2904.293	48
13	2832.922	2955.722	9.4522346	9.4706636	9.4809067	9.4627338	3026.264	2902.243	47
14	2834.951	2957.787	9.4525456	9.4709669	9.4806075	9.4624271	3024.179	2900.194	46
15	2836.981	2959.853	9.4528563	9.4712700	9.4803081	9.4621202	3022.095	2898.146	45
16	2839.011	2961.919	9.4531670	9.4715732	9.4800087	9.4618131	3020.012	2896.099	44
17	2841.041	2963.986	9.4534775	9.4718760	9.4797090	9.4615062	3017.929	2894.052	43
18	2843.073	2966.053	9.4537879	9.4721789	9.4794093	9.4611991	3015.847	2892.005	42
19	2845.105	2968.121	9.4540982	9.4724815	9.4791094	9.4608917	3013.766	2889.959	41
20	2847.137	2970.189	9.4544084	9.4727841	9.4788095	9.4605843	3011.685	2887.914	40
21	2849.170	2972.259	9.4547184	9.4730865	9.4785093	9.4602767	3009.604	2885.870	39
22	2851.204	2974.328	9.4550283	9.4733889	9.4782091	9.4599690	3007.524	2883.826	38
23	2853.238	2976.399	9.4553380	9.4736910	9.4779088	9.4596611	3005.445	2881.782	37
24	2855.272	2978.469	9.4556476	9.4739931	9.4776083	9.4593532	3003.367	2879.740	36
25	2857.309	2980.541	9.4559571	9.4742951	9.4773077	9.4590451	3001.289	2877.697	35
26	2859.345	2982.613	9.4562665	9.4745969	9.4770070	9.4587369	2999.211	2875.656	34
27	2861.382	2984.686	9.4565758	9.4748985	9.4767062	9.4584285	2997.134	2873.615	33
28	2863.419	2986.759	9.4568849	9.4752002	9.4764052	9.4581201	2995.058	2871.574	32
29	2865.457	2988.833	9.4571938	9.4755016	9.4761041	9.4578114	2992.982	2869.535	31
30	2867.496	2990.907	9.4575027	9.4758029	9.4758029	9.4575027	2990.907	2867.496	30

The End of the Table of Verfed Sines, &c.

A TABLE of Difference of Latitude and Departure to every Degree and Quarter-Point of the Compass, for the exact Working of a Traverse, when the distance Run exceeds not (the Radius) 10000.

	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	
Dut.	1. D. 87. D.	2. D. 88. D.	3. D. 89. D.	4. D. 90. D.	5. D. 91. D.	6. D. 92. D.	7. D. 93. D.	8. D. 94. D.	9. D. 95. D.	10. D. 96. D.	Dut.
1	0.9998	0.0175	0.9994	0.0349	0.9988	0.0491	0.9986	0.0523	0.9976	0.0698	1
2	1.9997	0.0349	1.9988	0.0698	1.9976	0.0981	1.9973	0.1047	1.9951	0.1395	2
3	2.9995	0.0524	2.9982	0.1047	2.9964	0.1472	2.9959	0.1570	2.9927	0.2093	3
4	3.9994	0.0698	3.9976	0.1396	3.9952	0.1963	3.9945	0.2093	3.9905	0.2790	4
5	4.9992	0.0873	4.9970	0.1745	4.9940	0.2453	4.9931	0.2617	4.9875	0.3488	5
6	5.9991	0.1047	5.9963	0.2094	5.9928	0.2944	5.9918	0.3140	5.9854	0.4185	6
7	6.9989	0.1222	6.9957	0.2443	6.9916	0.3435	6.9904	0.3664	6.9829	0.4883	7
8	7.9988	0.1396	7.9951	0.2792	7.9904	0.3925	7.9890	0.4187	7.9805	0.5530	8
9	8.9986	0.1571	8.9945	0.3141	8.9892	0.4416	8.9877	0.4710	8.9781	0.6278	9
10	9.9984	0.1745	9.9938	0.3511	9.9880	0.4691	9.9863	0.4985	9.9757	0.7026	10
11	10.9981	0.1919	10.9930	0.3881	10.9868	0.5061	10.9849	0.5355	10.9733	0.7774	11
12	11.9978	0.2093	11.9924	0.4251	11.9858	0.5436	11.9837	0.5730	11.9711	0.8522	12
13	12.9975	0.2267	12.9918	0.4621	12.9848	0.5812	12.9825	0.6026	12.9689	0.9270	13
14	13.9972	0.2441	13.9912	0.4991	13.9838	0.6188	13.9813	0.6420	13.9667	1.0018	14
15	14.9969	0.2615	14.9906	0.5361	14.9828	0.6559	14.9801	0.6752	14.9645	1.0766	15
16	15.9966	0.2789	15.9900	0.5731	15.9818	0.6925	15.9789	0.7118	15.9623	1.1514	16
17	16.9963	0.2963	16.9894	0.6101	16.9810	0.7298	16.9779	0.7500	16.9603	1.2262	17
18	17.9960	0.3137	17.9888	0.6471	17.9792	0.7678	17.9759	0.7890	17.9573	1.3010	18
19	18.9957	0.3311	18.9882	0.6841	18.9784	0.7856	18.9749	0.8168	18.9553	1.3758	19
20	19.9954	0.3485	19.9876	0.7211	19.9776	0.8234	19.9739	0.8546	19.9533	1.4506	20
21	20.9951	0.3659	20.9870	0.7581	20.9771	0.8602	20.9733	0.8904	20.9527	1.5254	21
22	21.9948	0.3833	21.9866	0.7951	21.9766	0.8968	21.9727	0.9260	21.9511	1.6002	22
23	22.9945	0.4007	22.9861	0.8321	22.9761	0.9334	22.9721	0.9626	22.9505	1.6750	23
24	23.9942	0.4181	23.9856	0.8691	23.9756	0.9700	23.9715	0.9992	23.9499	1.7498	24
25	24.9939	0.4355	24.9852	0.9061	24.9752	1.0074	24.9711	1.0366	24.9495	1.8246	25
26	25.9936	0.4529	25.9848	0.9431	25.9748	1.0448	25.9707	1.0738	25.9491	1.8994	26
27	26.9933	0.4703	26.9844	0.9801	26.9744	1.0830	26.9703	1.1120	26.9487	1.9742	27
28	27.9930	0.4877	27.9841	1.0171	27.9741	1.1212	27.9700	1.1410	27.9483	2.0490	28
29	28.9927	0.5051	28.9837	1.0541	28.9737	1.1604	28.9696	1.1802	28.9477	2.1238	29
30	29.9924	0.5225	29.9833	1.0911	29.9733	1.1796	29.9692	1.2000	29.9473	2.1986	30
31	30.9921	0.5399	30.9830	1.1281	30.9730	1.1988	30.9690	1.2204	30.9471	2.2734	31
32	31.9918	0.5573	31.9827	1.1651	31.9727	1.2180	31.9687	1.2428	31.9469	2.3482	32
33	32.9915	0.5747	32.9824	1.2021	32.9724	1.2372	32.9684	1.2676	32.9467	2.4230	33
34	33.9912	0.5921	33.9821	1.2391	33.9721	1.2564	33.9681	1.2970	33.9465	2.4978	34
35	34.9909	0.6095	34.9818	1.2761	34.9718	1.2756	34.9678	1.3274	34.9463	2.5726	35
36	35.9906	0.6269	35.9815	1.3131	35.9715	1.2948	35.9675	1.3578	35.9461	2.6474	36
37	36.9903	0.6443	36.9812	1.3501	36.9712	1.3140	36.9672	1.3882	36.9459	2.7222	37
38	37.9900	0.6617	37.9809	1.3871	37.9709	1.3332	37.9669	1.4186	37.9457	2.7970	38
39	38.9897	0.6791	38.9806	1.4241	38.9706	1.3524	38.9666	1.4490	38.9455	2.8718	39
40	39.9894	0.6965	39.9803	1.4611	39.9703	1.3716	39.9663	1.4794			40

A Table of Difference of Latitude and Departure to every Degree, &c.

Dif.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Dif.
1	0 p 1/4	7 p 1/4	9.D.	D.81.	10.D.	80.D.	11.D.	79.D.	1 p	7 p	1
2	0.9892	0.1467	0.9877	0.1564	0.9848	0.1736	0.9816	0.1908	0.9808	0.1951	2
3	1.9784	0.2935	1.9754	0.3129	1.9696	0.3473	1.9633	0.3816	1.9616	0.3902	3
4	2.9675	0.4402	2.9631	0.4693	2.9544	0.5209	2.9449	0.5724	2.9424	0.5853	4
5	3.9567	0.5869	3.9508	0.6257	3.9392	0.6946	3.9265	0.7632	3.9231	0.7704	5
6	4.9459	0.7337	4.9384	0.7822	4.9240	0.8682	4.9081	0.9740	4.9039	0.9854	6
7	5.9351	0.8804	5.9261	0.9386	5.9088	1.0419	5.8898	1.1449	5.8847	1.1705	7
8	6.9242	1.0271	6.9138	1.0950	6.8937	1.2155	6.8714	1.3357	6.8655	1.3656	8
9	7.9134	1.1738	7.9015	1.2515	7.8785	1.3892	7.8530	1.5255	7.8463	1.5607	9
10	8.9026	1.3206	8.8892	1.4079	8.8633	1.5628	8.8346	1.7173	8.8271	1.7558	10
11	12.D.	78.D.	13.D.	77.D.	14.D.	76.D.	1 p 1/4	6 p 1/4	15.D.	75.D.	11
1	0.9781	0.2079	0.9744	0.2250	0.9703	0.2419	0.9700	0.2430	0.9659	0.2588	1
2	1.9533	0.4158	1.9487	0.4499	1.9406	0.4838	1.9401	0.4860	1.9319	0.5176	2
3	2.9244	0.6237	2.9231	0.6749	2.9108	0.7253	2.9101	0.7289	2.8978	0.7765	3
4	3.9126	0.8316	3.8975	0.8998	3.8812	0.9677	3.8801	0.9719	3.8637	1.0353	4
5	4.8907	1.0396	4.8718	1.1248	4.8515	1.2076	4.8502	1.2149	4.8296	1.2941	5
6	5.8689	1.2475	5.8462	1.3497	5.8218	1.4515	5.8202	1.4579	5.7956	1.5529	6
7	6.8470	1.4554	6.8206	1.5746	6.7921	1.6935	6.7902	1.7009	6.7615	1.8117	7
8	7.8252	1.6633	7.7950	1.7996	7.7624	1.9354	7.7602	1.9438	7.7274	2.0706	8
9	8.8033	1.8712	8.7693	2.0246	8.7327	2.1773	8.7303	2.1868	8.6933	2.3294	9
12	16.D.	74.D.	1 p 1/2	6 p 1/2	17.D.	73.D.	18.D.	72.D.	19.D.	71.D.	12
1	0.9613	0.2756	0.9569	0.2903	0.9563	0.2924	0.9511	0.3090	0.9455	0.3256	1
2	1.9225	0.5513	1.9139	0.5806	1.9126	0.5847	1.9021	0.6180	1.8910	0.6511	2
3	2.8838	0.8269	2.8708	0.8709	2.8689	0.8771	2.8532	0.9271	2.8366	0.9767	3
4	3.8450	1.1025	3.8278	1.1611	3.8245	1.1695	3.8042	1.2361	3.7821	1.3023	4
5	4.8063	1.3752	4.7847	1.4514	4.7815	1.4619	4.7553	1.5451	4.7276	1.6278	5
6	5.7676	1.6538	5.7416	1.7417	5.7378	1.7542	5.7063	1.8541	5.6731	1.9524	6
7	6.7288	1.9295	6.6956	2.0320	6.6941	2.0466	6.6574	2.1631	6.6186	2.2790	7
8	7.6901	2.2051	7.6555	2.3223	7.6504	2.3300	7.6084	2.4721	7.5642	2.6045	8
9	8.6513	2.4807	8.6125	2.6126	8.6067	2.6313	8.5595	2.7812	8.5097	2.9301	9
13	1 p 3/4	5 p 3/4	20.D.	70.D.	21.D.	69.D.	22.D.	68.D.	2 p	6 p	13
1	0.9415	0.3369	0.9397	0.3420	0.9336	0.3584	0.9272	0.3746	0.9239	0.3827	1

Table of Difference of Latitude and Departure to every Degree. &c.

Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.	Lat.	Dep.
27.D. 63.D.	28.D. 62.D.	29.D. 61.D.	30.D. 60.D.	31.D. 59.D.	32.D. 58.D.	33.D. 57.D.	34.D. 56.D.	35.D. 55.D.	36.D. 54.D.	37.D. 53.D.	38.D. 52.D.
0.8910 0.4540	0.8829 0.4695	0.8746 0.4848	0.8660 0.5000	0.8577 0.5151	0.8480 0.5299	0.8387 0.5446	0.8289 0.5592	0.8192 0.5738	0.8090 0.5878	0.7986 0.6018	0.7880 0.6157
1.7820 0.9080	1.7659 0.9389	1.7492 0.9696	1.7320 1.0000	1.7155 1.0301	1.6991 1.0598	1.6773 1.0893	1.6564 1.1194	1.6353 1.1492	1.6140 1.1795	1.5926 1.2093	1.5710 1.2393
2.6730 1.3620	2.6483 1.4084	2.6239 1.4544	2.5981 1.5000	2.5715 1.5451	2.5441 1.5896	2.5160 1.6339	2.4874 1.6780	2.4583 1.7228	2.4287 1.7673	2.3986 1.8114	2.3680 1.8550
3.5640 1.8160	3.5317 1.8779	3.5000 1.9392	3.4641 2.0000	3.4289 2.0602	3.3922 2.1197	3.3547 2.1786	3.3164 2.2372	3.2774 2.2955	3.2378 2.3535	3.1976 2.4114	3.1568 2.4690
4.4550 2.2699	4.4147 2.3474	4.4096 2.3570	4.3731 2.4240	4.3402 2.4902	4.3002 2.5558	4.2620 2.6208	4.2234 2.6854	4.1844 2.7497	4.1450 2.8137	4.1052 2.8774	4.0650 2.9408
5.3460 2.7239	5.2977 2.8168	5.2915 2.8284	5.2477 2.9089	5.2054 2.9888	5.1654 3.0682	5.1254 3.1472	5.0854 3.2259	5.0454 3.3043	5.0054 3.3824	4.9654 3.4602	4.9254 3.5378
6.2370 3.1779	6.1806 3.2863	6.1734 3.2998	6.1223 3.3937	6.0770 3.4875	6.0334 3.5712	5.9900 3.6546	5.9466 3.7378	5.9032 3.8208	5.8598 3.9036	5.8164 3.9862	5.7730 4.0687
7.1280 3.6319	7.0636 3.7558	7.0554 3.7712	6.9970 3.8785	6.9454 3.9654	6.8954 4.0522	6.8454 4.1388	6.7954 4.2252	6.7454 4.3114	6.6954 4.3974	6.6454 4.4832	6.5954 4.5689
8.0190 4.0859	7.9465 4.2252	7.9373 4.2426	7.8716 4.3533	7.8116 4.4388	7.7534 4.5242	7.6954 4.6096	7.6374 4.6948	7.5794 4.7800	7.5214 4.8652	7.4634 4.9504	7.4054 5.0356
8.9100 4.5400	8.8290 4.6095	8.7492 4.6796	8.6660 4.7500	8.5777 4.8201	8.4880 4.8902	8.3987 4.9603	8.3089 5.0304	8.2192 5.1005	8.1290 5.1706	8.0386 5.2408	7.9480 5.3109
9.8010 5.0000	9.7059 5.0801	9.6123 5.1602	9.5164 5.2400	9.4192 5.3202	9.3202 5.4002	9.2200 5.4800	9.1194 5.5598	9.0186 5.6395	8.9176 5.7193	8.8164 5.7990	8.7150 5.8787
10.7000 5.4600	10.5959 5.5401	10.4923 5.6203	10.3881 5.7000	10.2834 5.7802	10.1782 5.8602	10.0726 5.9400	9.9666 6.0198	9.8602 6.0995	9.7534 6.1793	9.6464 6.2590	9.5390 6.3387
11.6000 5.9200	11.4923 5.6001	11.3854 5.6802	11.2781 5.7600	11.1704 5.8402	11.0622 5.9202	10.9536 6.0000	10.8446 6.0798	10.7352 6.1595	10.6254 6.2393	10.5152 6.3190	10.4046 6.3987
12.5000 6.3800	12.3923 5.6601	12.2854 5.7402	12.1781 5.8200	12.0704 5.9002	11.9622 5.9802	11.8536 6.0600	11.7446 6.1398	11.6352 6.2195	11.5254 6.2993	11.4152 6.3790	11.3046 6.4587
13.4000 6.8400	13.2923 5.7201	13.1854 5.8002	13.0781 5.8800	12.9704 5.9602	12.8622 6.0402	12.7536 6.1200	12.6446 6.1998	12.5352 6.2795	12.4254 6.3593	12.3152 6.4390	12.2046 6.5187
14.3000 7.3000	14.1923 5.7801	14.0854 5.8602	13.9781 5.9400	13.8704 6.0202	13.7622 6.1002	13.6536 6.1800	13.5446 6.2598	13.4352 6.3395	13.3254 6.4193	13.2152 6.4990	13.1046 6.5787
15.2000 7.7600	15.0923 5.8401	14.9854 5.9202	14.8781 6.0000	14.7704 6.0802	14.6622 6.1602	14.5536 6.2400	14.4446 6.3198	14.3352 6.3995	14.2254 6.4793	14.1152 6.5590	14.0046 6.6387
16.1000 8.2200	15.9923 5.9001	15.8854 5.9802	15.7781 6.0600	15.6704 6.1402	15.5622 6.2202	15.4536 6.3000	15.3446 6.3798	15.2352 6.4595	15.1254 6.5393	15.0152 6.6190	14.9046 6.6987
17.0000 8.6800	16.8923 5.9601	16.7854 6.0402	16.6781 6.1200	16.5704 6.2002	16.4622 6.2802	16.3536 6.3600	16.2446 6.4398	16.1352 6.5195	16.0254 6.5993	15.9152 6.6790	15.8046 6.7587
17.9000 9.1400	16.7923 6.0201	16.6854 6.1002	16.5781 6.1800	16.4704 6.2602	16.3622 6.3402	16.2536 6.4200	16.1446 6.4998	16.0352 6.5795	15.9254 6.6593	15.8152 6.7390	15.7046 6.8187
18.8000 9.6000	16.6923 6.0801	16.5854 6.1602	16.4781 6.2400	16.3704 6.3202	16.2622 6.4002	16.1536 6.4800	16.0446 6.5598	15.9352 6.6395	15.8254 6.7193	15.7152 6.7990	15.6046 6.8787
19.7000 10.0600	16.5923 6.1401	16.4854 6.2202	16.3781 6.3000	16.2704 6.3802	16.1622 6.4602	16.0536 6.5400	15.9446 6.6198	15.8352 6.6995	15.7254 6.7793	15.6152 6.8590	15.5046 6.9387
20.6000 10.5200	16.4923 6.2001	16.3854 6.2802	16.2781 6.3600	16.1704 6.4402	16.0622 6.5202	15.9536 6.6000	15.8446 6.6798	15.7352 6.7595	15.6254 6.8393	15.5152 6.9190	15.4046 7.0000
21.5000 10.9800	16.3923 6.2601	16.2854 6.3402	16.1781 6.4200	16.0704 6.5002	15.9622 6.5802	15.8536 6.6600	15.7446 6.7398	15.6352 6.8195	15.5254 6.8993	15.4152 6.9790	15.3046 7.0587
22.4000 11.4400	16.2923 6.3201	16.1854 6.4002	16.0781 6.4800	15.9704 6.5602	15.8622 6.6402	15.7536 6.7200	15.6446 6.7998	15.5352 6.8795	15.4254 6.9593	15.3152 7.0390	15.2046 7.1187
23.3000 11.9000	16.1923 6.3801	16.0854 6.4602	15.9781 6.5400	15.8704 6.6202	15.7622 6.7002	15.6536 6.7800	15.5446 6.8598	15.4352 6.9395	15.3254 7.0193	15.2152 7.0990	15.1046 7.1787
24.2000 12.3600	16.0923 6.4401	15.9854 6.5202	15.8781 6.6000	15.7704 6.6802	15.6622 6.7602	15.5536 6.8400	15.4446 6.9198	15.3352 7.0000	15.2254 7.0798	15.1152 7.1595	15.0046 7.2387
25.1000 12.8200	15.9923 6.5001	15.8854 6.5802	15.7781 6.6600	15.6704 6.7402	15.5622 6.8202	15.4536 6.9000	15.3446 6.9798	15.2352 7.0595	15.1254 7.1393	15.0152 7.2190	14.9046 7.2987
26.0000 13.2800	15.8923 6.5601	15.7854 6.6402	15.6781 6.7200	15.5704 6.8002	15.4622 6.8802	15.3536 6.9600	15.2446 7.0398	15.1352 7.1195	15.0254 7.1993	14.9152 7.2790	14.8046 7.3587
26.9000 13.7400	15.7923 6.6201	15.6854 6.7002	15.5781 6.7800	15.4704 6.8602	15.3622 6.9402	15.2536 7.0200	15.1446 7.0998	15.0352 7.1795	14.9254 7.2593	14.8152 7.3390	14.7046 7.4187
27.8000 14.2000	15.6923 6.6801	15.5854 6.7602	15.4781 6.8400	15.3704 6.9202	15.2622 7.0002	15.1536 7.0800	15.0446 7.1598	14.9352 7.2395	14.8254 7.3193	14.7152 7.3990	14.6046 7.4787
28.7000 14.6600	15.5923 6.7401	15.4854 6.8202	15.3781 6.9000	15.2704 6.9802	15.1622 7.0602	15.0536 7.1400	14.9446 7.2198	14.8352 7.2995	14.7254 7.3793	14.6152 7.4590	14.5046 7.5387
29.6000 15.1200	15.4923 6.8001	15.3854 6.8802	15.2781 6.9600	15.1704 7.0402	15.0622 7.1202	14.9536 7.2000	14.8446 7.2798	14.7352 7.3595	14.6254 7.4393	14.5152 7.5190	14.4046 7.5987
30.5000 15.5800	15.3923 6.8601	15.2854 6.9402	15.1781 7.0200	15.0704 7.1002	14.9622 7.1802	14.8536 7.2600	14.7446 7.3398	14.6352 7.4195	14.5254 7.4993	14.4152 7.5790	14.3046 7.6587
31.4000 16.0400	15.2923 6.9201	15.1854 7.0002	15.0781 7.0800	14.9704 7.1602	14.8622 7.2402	14.7536 7.3200	14.6446 7.3998	14.5352 7.4795	14.4254 7.5593	14.3152 7.6390	14.2046 7.7187
32.3000 16.5000	15.1923 6.9801	15.0854 7.0602	14.9781 7.1400	14.8704 7.2202	14.7622 7.3002	14.6536 7.3800	14.5446 7.4598	14.4352 7.5395	14.3254 7.6193	14.2152 7.6990	14.1046 7.7787
33.2000 16.9600	15.0923 7.0401	14.9854 7.1202	14.8781 7.2000	14.7704 7.2802	14.6622 7.3602	14.5536 7.4400	14.4446 7.5198	14.3352 7.5995	14.2254 7.6793	14.1152 7.7590	14.0046 7.8387
34.1000 17.4200	14.9923 7.1001	14.8854 7.1802	14.7781 7.2600	14.6704 7.3402	14.5622 7.4202	14.4536 7.5000	14.3446 7.5798	14.2352 7.6595	14.1254 7.7393	14.0152 7.8190	13.9046 7.8987
35.0000 17.8800	14.8923 7.1601	14.7854 7.2402	14.6781 7.3200	14.5704 7.4002	14.4622 7.4802	14.3536 7.5600	14.2446 7.6398	14.1352 7.7195	14.0254 7.7993	13.9152 7.8790	13.8046 7.9587
35.9000 18.3400	14.7923 7.2201	14.6854 7.3002	14.5781 7.3800	14.4704 7.4602	14.3622 7.5402	14.2536 7.6200	14.1446 7.6998	14.0352 7.7795	13.9254 7.8593	13.8152 7.9390	13.7046 8.0187
36.8000 18.8000	14.6923 7.2801	14.5854 7.3602	14.4781 7.4400	14.3704 7.5202	14.2622 7.6002	14.1536 7.6800	14.0446 7.7598	13.9352 7.8395	13.8254 7.9193	13.7152 7.9990	13.6046 8.0787
37.7000 19.2600	14.5923 7.3401	14.4854 7.4202	14.3781 7.5000	14.2704 7.5802	14.1622 7.6602	14.0536 7.7400	13.9446 7.8198	13.8352 7.8995	13.7254 7.9793	13.6152 8.0590	13.5046 8.1387
38.6000 19.7200	14.4923 7.4001	14.3854 7.4802	14.2781 7.5600	14.1704 7.6402	14.0622 7.7202	13.9536 7.8000	13.8446 7.8798	13.7352 7.9595	13.6254 8.0393	13.5152 8.1190	13.4046 8.1987
39.5000 20.1800	14.3923 7.4601	14.2854 7.5402	14.1781 7.6200	14.0704 7.7002	13.9622 7.7802	13.8536 7.8600	13.7446 7.9398	13.6352 8.0195	13.5254 8.0993	13.4152 8.1790	13.3046 8.2587
40.4000 20.6400	14.2923 7.5201	14.1854 7.6002	14.0781 7.6800	13.9704 7.7602	13.8622 7.8402	13.7536 7.9200	13.6446 7.9998	13.5352 8.0795	13.4254 8.1593	13.3152 8.2390	13.2046 8.3187
41.3000 21.1000	14.1923 7.5801	14.0854 7.6602	13.9781 7.7400	13.8704 7.8202	13.7622 7.9002	13.6536 7.9800	13.5446 8.0598	13.4352 8.1395	13.3254 8.2193	13.2152 8.2990	13.1046 8.3787
42.2000 21.5600	14.0923 7.6401	13.9854 7.7202	13.8781 7.8000	13.7704 7.8802	13.6622 7.9602	13.5536 8.0400	13.4446 8.1198	13.3352 8.1995	13.2254 8.2793	13.1152 8.3590	13.0046 8.4387
43.1000 22.0200	13.9923 7.7001	13.8854 7.7802	13.7781 7.8600	13.6704 7.9402	13.5622 8.0202	13.4536 8.1000	13.3446 8.1798	13.2352 8.2595	13.1254 8.3393	13.0152 8.4190	12.9046 8.4987
44.0000 22.4800	13.8923 7.7601	13.7854 7.8402	13.6781 7.9200	13.5704 8.0002	13.4622 8.0802	13.3536 8.1600	13.2446 8.2398	13.1352 8.3195	13.0254 8.3993	12.9152 8.4790	12.8046 8.5587
44.9000 22.9400	13.7923 7.8201	13.6854 7.9002	13.5781 8.0000	13.4704 8.0802	13.3622 8.1602	13.2536 8.2400	13.1446 8.3198	13.0352 8.3995	12.9254 8.4793	12.8152 8.5590	12.7046 8.6387
45.8000 23.4000	13.6923 7.8801	13.5854 7.9602	13.4781 8.0600	13.3704 8.1402	13.2622 8.2202	13.1536 8.3000	13.0446 8.3798	12.9352 8.4595	12.8254 8.5393	12.7152 8.6190	12.6046 8.6987
46.7000 23.8600	13.5923 7.9401	13.4854 8.0202	13.3781 8.1000	13.2704 8.1802	13.1622 8.2602	13.0536 8.3400	12.9446 8.4198	12.8352 8.4995	12.7254 8.5793	12.6152 8.6590	12.5046 8.7387

SOME USES

Of the Preceding

TABLES.

CHAP. I,

Of Decimal Fractions,

THE Table of Logarithms being of general Use in all parts of the *Mathematicks*, cannot well be apply'd without some Knowledge of Decimal Fractions; which, of all Fractions, are most Natural, whole Numbers being nothing else in effect: So that *Arithmetick* in whole Numbers being understood, the Use of Decimal Fractions is very easily learnt.

I. That the Nature of a Decimal Fraction may be conceived, imagine a Foot Rule (or any other Measure) to be divided into 10 equal parts, each division will be $\frac{1}{10}$; then imagine every of those Tenths to be divided into 10 equal parts, then the Foot (or other measure) will be divided into 100 equal parts, every first Division will be $\frac{1}{100}$, or $\frac{1}{100}$; and every second Division, in respect to the whole, will be $\frac{1}{1000}$; so that if 3 tenths and a half were to be express'd, it's $\frac{35}{100}$. By this means, an Hour, a Fathom, a Pound, a Shilling, &c. may be divided into 10, 100, 1000, 10000, &c. equal parts, at pleasure.

II. A Decimal Fraction hath always for its Denominator an Unite with Cyphers, viz. 10, 100, 1000, 10000, &c. and seeing the use of a Denominator in a Fraction is to shew into how many parts an Unite is divided, it may be quite omitted; and yet known by this Rule, viz. The Denominator of a Decimal Fraction is an Unite, with so many Cyphers as there are places in the Numerator, and is known from whole Numbers by a point prefix'd, thus: .2 is $\frac{2}{10}$, .34 is $\frac{34}{100}$, .567 is $\frac{567}{1000}$, .0089 is $\frac{89}{10000}$ &c. Observe the same of mixt Numbers; for 678.9 is $678\frac{9}{10}$, 67.89 is $67\frac{89}{100}$, 6.789 is $6\frac{789}{1000}$ &c.

Of Decimal Fractions.

III. Cyphers at the right hand of a Decimal Fraction alter not the Value; for .5 is $\frac{1}{10}$, .50 is $\frac{10}{100}$, .50000 is $\frac{10000}{100000}$, and each of them is one half.

IV. Therefore Decimal Fractions are easily reduced to a common Denominator, by making all their Numerators to consist of the same number of places; so .3 .45 .067 .0089, may be writ thus .3000 .4500 .0670 .0989; all which consisting of four places, their common Denominator is an Unite, and four Cyphers, viz. 10000

V. Addition and Subtraction are the same as in whole Numbers, the places of the same Denomination being set one under another, it will be a good Guide to place Point under Point: See three Examples of each.

Addition.			Subtraction.		
.3	1.5	121.5	9.75	6.5	89
.45	.5625	45.5605	8.5	3.75	73.497
.06789	.9375	75.9375			
.81789	3.0000	242.9980	1.25	2.75	15.503

VI. In Multiplication, work as in whole Numbers, and from the Product separate with a point so many places to the right hand as there are decimal places both in the Multiplicand and Multiplier, then all the places upon the left hand of the point are whole Numbers, and on the right a decimal Fraction.

VII. If there be not so many places in the Product, as ought to be separated by the preceding Rule, then place Cyphers at the left to compleat the Number, as may be seen in the Sixth and Seventh Examples.

Ex.1) 456 21.3 1368 456 912 97128	Ex.2) 45.6 21.3 971.28 Ex.3) 456 .213 97.128	Ex.4) 45.6 213 9.7128 Ex.5) 456 2.13 .97128	Ex.6) .456 213 .097128 Ex.7) .0456 213 .0097128
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VIII. In Division, work as in whole Numbers, and from the Quotient separate with a point so many places to the right hand (for a decimal Fraction) as there are decimal places in the Dividend more than in the Divisor; for there must be so many decimal places in the Divisor and Quotient, as are in the Dividend.

IX. Another

IX. Another method of finding the Value of the Quotient before the Division begin, *viz.* Set the Divisor under the Dividend, then will the Unit's place in the Divisor stand under such a place in the Dividend, as is at the same distance from Unity with the first significant Figures of the Quotient, as in the Examples first and last: *First*, Here 5, the Unit's place in the Divisor, stands under 8, the third Figure above Unity in the Dividend; denoting, that 3, the first Figure of the Quotient, is of the same Value, and that here are three Integers and two Decimals in the Quotient. In the *last*, the Cypher preceding 6 in the Divisor, which is the place of Unity, rests under 2 in the Dividend; shewing, that 3 in the Quotient shall be of the same value, *viz.* two places below Unity.

X. Therefore, if the Divisor be a whole Number, the Quotient will have the same number of decimal places as the Dividend, as *Ex. 1.* If the Dividend consists of six decimal places, and the Divisor but of two, there will be four decimal places in the Quotient, as *Ex. 3.*

XI. If there be more decimal places in the Dividend, than are in the Divisor and Quotient, place Cyphers at the left hand of the Quotient, to compleat the Number. See the 5th Example, where one Cypher is prefix'd.

XII. Annex what number of Cyphers you please to the right hand of the Dividend, putting a point where the Fraction begins, (see Rule 3.) But if the Dividend be made to have three decimal places more than in the Divisor, there will be three decimal places in the Quotient; which, in most cases is sufficient, except it is to be multiply'd afterwards.

Divisor.	Dividend.	Quotient.
675)	234890.00	(347.98
675)	2348.9000	(34798
6.75)	23.489000	(3.4798
.675)	.23489000	(.34798
.675)	.023489000	(.034798

XIII. Vulgar Fractions are reduced to Decimals of the same value, by dividing the Numerator by the Denominator.

Example, What is the Decimal of 9 d? (*viz.* $\frac{9}{12}$ of 1 lib.) see the Work 240) 9.0000 (.0375.

Decimals being well understood, will make the following Uses of Logarithms very easie.

4 *A Number being given, to find its Logarithm.*

C H A P. II.

Of finding the Logarithm to any Number, or the Number to any Logarithm, explain'd in the following Propositions.

I. *To find the Logarithm of a whole Number, under 1000.*

IN the four first Pages of the Table, are placed all absolute Numbers from 1 to 999, in their natural Order, and against every Number its Logarithm; so the Log. of 43 is 1.6334685.

Note, The Index, or Characteristick of the Logarithm of every Number, from 100 to 999 being 2, it is placed over each Column of Logarithms, and are to be prefix'd to every Logarithm in the same Column; so the Log. of 430 is 2.6334685, and the Log. of 999 is 2.9995655, so of the rest.

II. *To find the Logarithm of any Number, that consists of four places.*

Find the Number propounded in the first Column (of the Ta-

<i>Num.</i>	<i>Log.</i>
1000 is	3.0000000
1004 is	3.0017837
9959 is	3.9982157
9999 is	3.9999566

ble) intituled *Num.* against which in the second Column (sign'd at the Head 0) is found the Log. sought, when 3 (the proper Index of all absolute Numbers consisting of four places) is prefix'd; as may be seen in the adjoining Examples.

III. *To find the Logarithm of any Number, that consists of five places.*

Find the four first Figures of the Number given by the last Prop. and against it in the next Column are the three first Figures of the Log. sought, which note in your Paper; then seek the last Figure of the Number given amongst the Figures at the head of the Table, and in the common meeting of these two lines, are the four last Figures of the Log. sought, which must be annexed to the three before found, (before which a proper Index being prefix'd) is the Log. sought. *Example,* 54237 being given; I find 5423 (the four first Figures) in the first Column, against which in the next Column the three common Figures are 734; and the last Figure of the Number given, *viz.* 7, I find at the head of the Table, under which, and against 5423, are these four Figures, *viz.* 2957, which being joyn'd to the three Figures before found, *viz.* 734, it will stand thus 7342957; before which the proper Index being plac'd, the Log. of 54237 is found to be 4.7342957.

Note, That when the four last Figures of the Logarithm begin with a Cypher, then prefix to them the three common Figures (in the second Column) that follow in the next line below, thus: For the Logarithm of 54453, instead of the three common Figures

A Number being given, to find its Logarithm.

9

Figures above, viz. 735, take the three common Figures in the line below, viz. 736; so the Log. of 54453, is not 4.7350218; but 4.7360218. The same is to be observed in all that follow in the same line.

IV. To find the Logarithm of a Number, consisting of six places.

Find the Log. of the five first Figures by the last Prop. and note the common Difference in the last Column but one, then look that Difference in the last Column, sign'd at the head *Pts.* and at bottom *Pro.* (which stands for *Parts Proportional*.) Against the sixth Figure of the Number given, is a Number, which being added to the Log. of the five places before found, is the Log. sought, when the proper Index, viz. 5, is prefix'd. *Example*, 542375 being given, the Log. of 54237 is found (by the last Prop.) to be 7342957, and the common Difference is 80, and in the last Column against 5, the last Figure, I find 40, which being added to 7342957, makes 5.7342997, which is the Log. of 542375, which was sought.

Note, That the Proportional Part may be found (without the Table of Parts Proportional in the last Column) thus: Multiply 80, the common Difference, by the sixth place, (which in this Example is 5) then divide it by 10, will give 40, as before. By this Proportion is made the Table, intitled *Pts. Pro.* in the last Column.

V. To find the Logarithm of a Number consisting of seven places.

Find the first five places by Prop. III. and of the sixth place by the last; and for the seventh place, divide the Part Proportional by 10, (that is, set it one place farther to the right hand, than the last Figure of the Logarithm reaches) then add it to the Logarithm of the six places before found, their Sum is the Logarithm sought; so the Logarithm of 5423758 is found to be 6.7343003: See the Margin, where is represented the Sum of the III^d, IVth, and this Vth Prop.

Note, That the Part Proportional may be found (without the Table in the last Column) for the two last places, by multiplying them by the common Difference, and then dividing the

Product by 100; so in the last Example, 80 multiply'd by the two last Figures, viz. 58, produces 4640; then divided by 100 Quotes 46.4, as before.

		<i>Pts.</i>
		80
		14 8
		2-16
<i>Num.</i>	<i>Logarithm.</i>	3-24
54237	4.7342957	Diff.
5	40	4-32
542375	5.7342997	5-40
54237	4.742957	6-48
5	40	7-56
58	6.4	8-64
5423758	6.7343003	9-72
		<i>Pro</i>

W. A

6 *A Number being given, to find its Logarithm.*

VI. A Fraction being given, to find its Logarithm, subtract the Logarithm of the Denominator from the Log. of the Numerator, the Remainder is the Log. sought, and is always the Logarithm of a Decimal Fraction.

Note, That the easiest and most useful way to find the Logarithm of a Fraction, is this; suppose the Index of the Log. of all Numbers from 1 to 10 to be 10 or 100 from 10 to 100 to be 11 or 101 from 100 to 1000 to be 12, or 102, from 1000 to 10000 to be 13 or 103 and so upwards. This being allowed the Index of the Log. of a Number, one place below Unity, must be 9 or 99, if two places below Unity, it must be 8 or 98, if three places, then the Index must be 7 or 97, if four places then 6 or 96, the latter of these ways is often convenient to distinguish the Index of a whole Number, from that of a decimal Fraction, and often necessary when the Power or Root of a decimal Fraction is required, as in the next Chapter.

Example, The Log. of $\frac{1}{2}$ is found thus: $3 \text{ Log. } 0.4771213$
 From which subtract the Denominator, viz. $4 \text{ Log. } 0.6020600$
 The Remainder is the Log. of $.75 \text{ Log. } 9.8750613$

Note, That the Denominator of a proper Fraction is always greater than its Numerator; so the supposing the Index of the Log. of 3 to be 10 or 100, the Index of the Remainder will be 9 or 99 (that is one place below Unity) and the rest of the Log. except the Index, is found in the Table of Logarithms to answer to 75, 750, 7500, .0075, .075, .75, or any other Number, whose two significant Figures are 75, and those which follow or precede all Cyphers. It was the former of these ways, Mr. Briggs and Mr. Gunter made the Characteristicks of their Tables of *Logarithmetick Sines and Tangents*; where it may be noted, when the *Natural Sine* or *Tangent* is a decimal Fraction only, the Index is under 10; but where it is a mixt Number, there the Index is 10 or more. For Example: The Natural Tangent of 5 Degrees is .0874887, the Artificial is 8.9419518; and the Natural Tangent of 85 Degrees is 11.430052, the Artificial is 11.0580482. It is needless to use these new Indices, except some Term given or sought be less than an Unite.

VII. *To find the Logarithm of a mixt Number.*

Reduce the Number given into an improper Fraction, then subtract the Logarithm of the Denominator from the Log. of the Numerator, the Remainder is the Logarithm sought.

Example, Let $4\frac{1}{2}$ be the mixt Number given; this, reduced to an improper Fraction, is $\frac{9}{2}$.
 The Logarithm of the Numerator, viz. 9, is 1.7558748
 The Logarithm of the Denominator, viz. 2, is 1.0791812
 The Logarithm of $4\frac{1}{2}$, equal to $4\frac{1}{2}$, whose Log. is 0.6766936
 If

A Logarithm being given, to find the Corresponding Number. 7

If the Fraction annex'd be a Decimal, seek for it as if it was a whole Number, observing to prefix to its Logarithm a suitable Index, which always is an Unit less than the number of places in the whole Number, to which it belongs; which is further illustrated by the adjoining Table, where the Logarithms, except the Index, are the same in these Eight Examples: The Index of the Log. of 47500 is 4, because the absolute Number consists of 5 places: For the same Reason, in 475, the Index of its Log. is 2; in 47.5, it is 1; but the Index of a proper decimal Fraction is so many Units, as the Cyphers before it wants of 9 or 99, so the Index of .0475 is 8 or 98, and of .00475 is 7 or 97.

<i>Numb.</i>	<i>Logarithm.</i>
47500	4.6766936
4750	3.6766936
475	2.6766936
47.5	1.6766936
4.75	0.6766936
.475	99 or 9.6766936
.0475	98 or 8.6766936
.00475	97 or 7.6766936

VIII. To find the Number that answers to any given Logarithm.

Find the three first Figures (except the Index) of the Log. given in the second Column, and the four last in the same, or in some of the nine following; where, if you find it exactly, you have your desire; when so many places at the right hand of the Number sought, are prick'd off for a decimal Fraction, as will leave the whole Number more by one place, than there are Units in the Index of the Log. given.

Example, The Number answering to this Log. viz. 2.7342957, being sought, I look in the second Column for 734, (the three first Figures) and having found them, I look for the four last among the ten Columns at the right hand, and find under the Figure of 7, is 2957; so I conclude, 54237 is the Number sought, (whose Log. without its Index, is 7342957) but then I consider, that the Index of the Log. given is 2, therefore the three places at the left is a whole Number, and the two last a decimal Fraction, viz. 542.37; if the Index had been 3, it would have been 5423.7; if the Index had been 4, then the absolute Number sought had been 54237; if the Index had been -9 or 99 the Number sought had been .54237. You may see, in all these Examples, the Log. is the same, except the Index. I am the more Explicit in this, both here and before, because the Use of Logarithms is very much obscured, if it be not understood: Which makes Sir Jonas Moor say, in his *Arithmetick*, *That the Canon of Logarithms is in every Man's hand, but their perfect Use in decimal Fractions known but to few.*

Of Logarithmical Arithmetick.

IX. If the Logarithm given be not found exactly in the Table, take the nearest that is less, and subtract it from the Log. sought, what remains look for in the Parts Proportional (of its common Difference) for the nearest Number less than the Remainder, against which is a sixth Figure to be placed at the right hand of the five Figures before found; and in case the Part Proportional be not found exactly, subtract it from the first Remainder, then place a Cypher at the right hand of the last Remainder (in the manner of a decimal Fraction;) last of all, against the nearest Part Proportional (either bigger or less) is a seventh Figure to be placed at the right hand of the six Figures before found.

Example, Let the Logarithm given be — — —	6.7343003
The nearest less is the Logarithm of 54237	7342957
The Remainder (and common Diff. is 80)	46
The nearest less, in the Parts Pro. gives 3	40
The second Remainder is	06.0
The nearest in the same Parts Pro. gives 8	6.4
Ans. 6.7343003 is the Logarithm of 5423758	

Note; That without the Table of Parts Proportional, the Number answering to any Logarithm, not exceeding 9 999 999, may be thus found, *viz.* Find (by the foregoing Directions) the nearest Log. that is less, and subtract it from the Log. given; then annex two Cyphers to the right hand of the Remainder, and divide it by the common Difference, the Quotient gives two Figures to be placed on the right hand of the Number answering to the first found Logarithm.

CHAP. III. Of Logarithmical Arithmetick.

I. *In Multiplication*, add the Log. of the Multiplicand and Multiplier together, their Sum is the Log. of the Product.

Ex. Mul. 8.5 Log. 0.9294189
 by 10 Log. 1.0000000
 Product 85 Log. 1.9294189

II. *In Division*, subtract the Log. of the Divisor from the Log. of the Dividend, the Remainder is the Log. of the Quotient.

Exam. 9712.8 Log. 3.9873444
 Divid. by 456 Log. 2.6589648
 Quotient 21.3 Log. 1.3283796

III. In the *Rule of Three*, add the Log. of the second and third Term together, and from their Sum subtract the Log. of the first, the Remainder is the Log. of the fourth. *Example,* If Four Ells cost 9^l. what will Twelve Ells cost? *Ans.* 27^l.

The

Of Logarithmical Arithmetick.

9

The Log. of 4	<u>0.6020600</u>	Note, That if the Arith. Com. of
The Log. of 9	<u>0.9542425</u>	the Log. of the first Term (which
The Log. of 12	<u>1.0791812</u>	in this Example is 9.3979400) be
The Log. of 108	2.0334257	added to the Log. of the second
The Log. of 27	1.4313637	and third. The Result will be the
		same.

IV. To find the Complement Arithmetical of a Logarithm. Begin at the left hand, and take the Complement of each Figure to 9, only under the last take its Complement to 10, which is all one with subtracting the same *Logarithm* from 10.0000000.

If there be two or more *Logarithms* to be subtracted, take their Arith. Complements. Thus the Double Rule of Three, in *Logarithms*, may be wrought by one Addition. *Exam.* If the Interest of 100*l.* for 365 Days, is 6*l.* what is the Interest of 5173*l.* for 321, *Ans.* 272.964*l.*?

	8.0000000	Co. Ar. 100
	7.4377071	Co. Ar. 365
	0.7781512	Log. of 6
	3.7137425	Log. of 5173
	2.5065050	Log. of 321
	22.4361058	= 272.964 <i>l.</i>

See the Work.

Of Raising of Powers by Logarithms.

V. Multiply the Log. of the Number given by the Index of the Power required, the Product will be the Log. of the Power sought, so the Log. of 32 = 1.5051500 $\times 3 = 4.5154500$ the Log. of 32768 which is the cube of 32.

VI. In the Multiplication, or Raising the Powers, *viz.* Squaring or Cubing, &c. of any decimal Fraction by *Logarithms*, the Index of the *Logarithm* of the Product or Power must consist of so many Units, as the number of Cyphers intercepted between the place of Unity, and the first significant Figure in the Natural Number, wants of 9, 99, 999, &c. only to the Index of the *Logarithm* of the Power, (*i. e.* the Square or Cube, &c.) there will be such a Figure prefix'd, as wants an Unit of the Index of that Power or Number by which the *Logarithm* was multiply'd; for Example, let the Cube of .009 be required, the Log. of .009 is 7.9542425 $\times 3 = 23.8627275 = .000000729$ the Cube of .009 and the Index of the *Logarithm* of the Power or Product is 3, therefore Six Cyphers must precede the first significant Figure of the Natural Number; and 2 is prefix'd, since the Index or Number multiplying was 3. But when the Number of Cyphers, preceding the significant Figures of the Power or Product, exceeds 10, 'tis necessary to admit another Figure into the Index of the *Logarithm*, and make it the Complement to a Hundred: As suppose the 6th Power, or the Cubo-Cube of the Sine of $0^d 1'$ be requir'd, its *Logarithm* in the Tables is 6.4637261; but in this Case must be 96.4637261, which multiply'd by 6, the Index of

the Power propos'd, becomes 578.7823566, whose Index being 78 subtracted from .99, leaves 21 for the Number of Cyphers that must precede the first Figure of the Natural Number or Power, which is .0000000000000000000000006058383. Here the Figure preceding the Index, as the Result of the Multiplication, is 5, less by an Unit than the Number multiplying, being 6, the Index of the Power.

VII. This suggests a certain Rule for Extracting the Roots of Fractions by the *Logarithms*: *Viz.* Prefix a Figure to the Index of the *Logarithm* of the Number, whose Root is to be extracted, less by an Unit than the Index proper to the Root requir'd, which is to be the Divisor; then divide the whole *Logarithm*, together with its Index and Number prefix'd, by that Index, the Quotient is the *Logarithm* of the Root desired.

Ex. Gr. If the Cubo-cube-Root or Root of the Sixth Power of .0000000000000000000000006058383, whose *Log.* is 78.7823566, be demanded, prefix 6—1 *i. e.* 5 to its Index, it is then 578.7823566, which being divided by 6, the Index proper to the Root sought, the Quotient is 96.4637261, whose Natural Number is .0002908882, three Cyphers preceding the first Figure, because the Index 96 wants so much of 99. But when the Root of an Absolute Number is requir'd, there need no Figure be prefix'd to the Index of its *Logarithm*; since it is always suppos'd, that the Index of the Power (which must be the Divisor) precedes it. *Ex. Gr.* If the Cube-Root of 6751269, whose *Logarithm* is 6.82993854, be required, 'tis an indifferent thing, whether 3, the Index of the Root to be extracted, be prefix'd or not, since that alters nothing: For 3) 36.82993854 (Quotes 12.2764618, the *Logarithm* of 189, the Cube-Root sought.

VIII. *Another Method to Raise any Power of a Decimal Fraction.* Multiply the Arith. Comp. of the *Log.* of the Fraction given by the Index of the Power required, the Arith. Com. of the Product is the *Log.* of the Power sought; For Instance, the .625 power of .0032 is found in the Margin to be .0275879.

Note, That so many Cyphers must precede the Fraction, as the Index of its *Logarithm* wants Units of 9, or 99. (as in pag. 6 and 7) which in this Example is one, and in the next 15. being always the same Number with the Index of the Product.

.0032 *Log.* 7.5051500
Arith. Com. 2.4948500
 multiply'd by .625

124742500
 49897000
 149691000

Product 1.5592812500

its Ar. Co. 8.4407187500
 the *Log.* of .0275879

Again,

Again, Let the 6.25 Power of .0032 be sought, the Log. of .0032 (as before) is 7.5051500, and its Arith. Comp. 2.4948500 \times 6.25 = 15.5928125, its Arith. Comp. is 84.4071875, which answers to .00000,00000,00000,25538, which is the 6.25 power of .0032.

IX. To Extract any Root of a Decimal Fraction, divide the Arith. Complement of the Log. of the Fraction given by the Index of the Root required, the Arith. Comp. of the Quotient is the Log. of the Root sought; For Instance, let the .625 Root of .0275879 be required, its Log. is 8.4407188, and its Arith. Comp. = 1.5592812, divided by .625 the Quotient is 2.4948500, and its Arith. Comp. is 7.5051500, the Log. of .0032, which is the Root required.

Again, Let the 6.25 Root of .00000,00000,00000,25538. be required its Logarithm is 84.4071875, and its Arith. Comp. 15.5928125, divided by 6.25, the Quotient is 2.4948500, and its Arith. Comp. 7.5051500 the Log. of .0032, the Root required.

X. To find as many Mean Proportionals as are desired between any two Numbers given, subtract the Log. of the least Term from the Log. of the greatest, and divide the Remainder by a Number more by one then the number of Means desired, then add the Quotient to the Log. of the least Term (or subtract it from the Log. of the greatest) continually, and it will give the Logarithms of all the Mean Proportionals required. Example, Let Three Mean Proportionals be sought, between 106 and 100.

The Log. of 106 2.0253059

The Log. of 100 2.0000000

Divided by 4) 0.0253059 (0.006316475 the Log. Quotient = (1)

The Log. of the least term 100 2.0000000 (2)

The first Mean, 101.4673846 2.006326475 (3) = 1 + 2

The second, viz. 102.9563014 2.01265295 (4) = 1 + 3

The third, viz. 104.4670483 2.018979425 (5) = 1 + 4

The greatest Term 106. 2.0253059 (6) = 1 + 5

If of 11 Mean Proportionals, between 106 and 100, the 9th Mean was required, divide the Remainder by 12, and multiply the Quotient by 9, and add it to the least term; or multiply it by 3, and subtract it from the greatest, it will give the Log. of the 9th Mean Proportional required, and is the same with the Third in the foregoing Example.

C H A P. IV.

The Resolution of the Cases of Right-line Triangles, by Logarithms.

THUS far we have shewed the Use of the Logarithms of the Chiliads : Now we will shew the Use of the same, together with the Logarithms of the Canon of Triangles, and that in the Resolution of Right-line Triangles.

Wherein, this is generally to be observed, that when we say The Sine, Tangent, &c. we mean The Logarithms of the same Sine, Tangent, &c. in the abovesaid Canon.

Figure II.

Prop. I. *Having the three Angles, and one side, to find either of the other sides.*

Add the Logarithm of the given side to the Sine of the Angle, opposed to the side required, and from the Sum subtract the Sine of the Angle opposed to the given side, the remainder will be the Logarithm of the side required.

For Example : In the Triangle BCE, having the Angle CEB 90 grad. CBE 51 grad. 56 min. BCE 38 grad. 4 min. and the side BE 197.3; we would know the side CE.

2.29512.71	the log. of 197.3
9.99613.69	the sine of 51 grad. 56 min.
12.19126.40	the sum.
9.78998.80	the sine of 38 grad. 4 min.
2.40127.60	the log. of 251.9278 for CE required.

Or you may add the Arithmetical Complement of the Sine of the Angle opposed to the given side, to the two other Logarithms, and the Sum shall be the Logarithm of the side required, as we have shewed in the III^d Chapter, Propotion IV. And it is to be noted, that the Arithmetical Complements of the Sines in the Canon are to be found in the Columns of the Secants : For (neglecting the first Unit) the Secants of the Complements of the same Archa, whereof the Sines are expressed in the Canon, are the Arithmetical Complements of the same Sines. For Example : The Sine of 38 grad. 4 min. being 9.7899880, the Secant of 61 grad. 56 min. the Complement thereof is 10.2100120, which (neglecting the first Unit) is the Arithmetical Complement of the said Sine.

0.21001.20	the Ar. Co. of the sine 38 gr. 4m.
2.29512.71	the log. of 197.3
9.99613.69	the sine of 51 grad. 56 min.
12.40127.60	the log. of 251.9278, as before.

But

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But if one side of a Rectangle Triangle, and the Angles be known, and you would have the other side, as in the former Example, the Operation will be easier, thus:

Add the Tangent of the Angle opposite to the side required, to the Logarithm of the given side, and from the Sum subtract the Radius, the Remainder shall be the Logarithm of the side required.

20.10614.88 the Tangent of 51 grad. 56 m.
2.29712.71 the log. of 197.3
 12.40127.59 the log. of 251.9, as before.

Prop. II. *Having two sides, and an Angle opposite to one of them; to find the other two Angles, and the third side.*

Add the Sine of the Angle given, to the Logarithm of the side opposed to an Angle required, and from the Sum subtract the Logarithm of the side opposed to the Angle given, the remainder shall be the Sine of the Angle opposite to the other side given.

For Example: In the Triangle ABC, the side AC being 800, BC 320, and the Angle ABC 128 grad. 4 min. we would know the Angles BAC, ACB, and the side AB.

9.89613.69 the sine of 128 grad. 4 min.
2.50515.00 the log. of 320.
12.40128.69 the sum.
2.90209.02 the log. of 800.
9.49819.69 the sine 18 gr. 21 m. for BAC.

Having BAC and ABC, the Angle ACB is their Complement 180 grad. viz. 33 grad. 35 min. and the side AB you may find by the first Proposition.

Prop. III. *Having two sides, and the Angle between them; to find the other two Angles, and the third side.*

If the Angle included be right, add the Radius to the Logarithm of

the less side, and from the Sum subtract the Logarithm of the greater side, the Remainder shall be the Tangent of the Angle opposed to the less side.

For Example: In the Triangle BCE, the side BE being 197.3, and CE 251.9, we would know the Angles BCE, CBE, and the Base CB.

12.29512.71 the Rad. added to log. of 197.3
2.40127.78 the log. of 251.9
9.89389.89 the Tang. of 38 gr. 4 m. for BCE.

But if the Angle included be oblique, add the Logarithm of the Difference of the given sides to the Tangent of half the Sum of the Angles unknown, and from the Sum subtract the Logarithm of the Sum of the given sides, the Remainder shall be the Tangent of the half of their Difference.

For Example: In the Triangle ABC, the side AB being 562, BC 320, and the Angle ABC 128 grad. 4 min. we would know the Angles BAC, ACB, and the side AC.

The Sum of the given sides is 882, and the Difference 242, the half Sum of the Angles unknown is 25 grad. 58 min.

(side given.
2.38981.54 the log. of 242 the Diff. of the
9.68754.08 the tan. of 25 gr. 58 m. the half
 sum of the Angle unknown.
12.07135.56 the sum.
2.94546.86 the log. of 882, the sum of the
 sides given.
9.12588.70 the tangent of 7 grad. 37 min.

These, 7 grad. 37 min. being added to 25 grad. 58 min. the half Sum of the Angles unknown, the Sum is 33 grad. 35 min. for the greater Angle ACB; and the same, 7 grad. 37 min. being subtracted from 25 grad. 58 min. the Remainder is 18 grad. 21 min. for the less Angle CAB. Lastly, knowing three Angles, and two sides, the third may be found by the first Proposition.

Prop.

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Prop. IV. *Having the three sides; to find any Angle.*

Add the three sides together, and take half the Sum thereof, and the Differences betwixt the same half Sum and each side. This done, add the Logarithms of the half Sum, and of the Difference betwixt the same half Sum and the Base, together. Add also the Logarithms of the Differences of the other two sides, and the the doubled Radius, together: Then out of this Sum subtract the first Sum, and half the Remainder will be the Tangent of half the Angle required.

For Example: In the Triangle ABC, the side AB being 562, AC 800, and BC 320, we would know the Angle ABC.

AC 800 the base.
AB 562 the side.
BC 320 the side.

The sum 1682
The half sum 841 log. 2.92479.69
The diff. of AC 41 log. 1.61278.39
The sum 4.53757.99
The diff. of AB 279. log. 2.44560.42
The diff. of BC 521. log. 2.71683.77
Doubled Radius 20.00000.00
The Sum 25.16244.19
The first Sum subtracted 4.53757.99
The Remainder 20.62486.20
Half the Remainder 10.31243.10 Tan.
of 64 gr. 2 min. whose double is 128 gr.
4 min. for ABC.

Or add the Arithmetical Complements of the Logarithm of half the Sum, and of the Difference betwixt the same half Sum and the Base, to the Logarithms of the two other Differences, and half the Sum shall be the Tangent of half the Angle required.

7.07520.40 the Ar.Co. of log. 841
8.38721.61 the Ar.Co. of log. of 41
2.44560.42 the log of 279.
2.71683.77 the log. of 521.

The Sum 20.62486.20
The Sum 10.31243.10 is the Tangents of 64 gr. 2 min. as before.

CHAP. V.

The Resolution of the Cases of Spherical Triangles, by Logarithms.

THE Resolution of the Spherical Triangles is to be done by the Canon of Triangles, which we shall shew by 28 Propositions following, whereof 16 are of Rectangles, and 12 of Oblique Triangles; and first of the Rectangles.

Figure III.

Prop. I. *Having the two sides; to find the Base.*

Add the Co-Sine of one side, to the Co-Sine of the other side, and

from the Sum subtract the Radius, the Remainder is the Co-Sine of the Base required.

For Example: In the Rectangle ACB, having AC, 27 gr. 54 min. and BC 11 grad. 30 min. we would know the Base AB.

9.99119.27 the Co-Sine of 27 gr. 54 m.
9.24633.71 the Co-Sine of 11 gr. 30 m.
19.93752.98 the Co-Sine of 30 gr. 0 min.
for AB required.

Prop.

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Prop. II. *Having the two sides; to find either of the Oblique Angles.*

Add the Sine of the side next the required Angle, to the Co-Tangent of the opposite side, and from the Sum subtract the Radius, the Remainder is the Co-Tangent of the Angle required.

For Example: In the Rectangle ACB having AC 27 grad. 54 min. and BC 11 grad. 30 min. we would know the Angle BAC.

9.67018.07 the Sin. of next side 27 gr. 54 m.
10.69153.74 the Co-Tang. of the opposite
side 11 grad. 30 min.
10.36171.81 the Co-Tang. of 23 gr. 30 min.
for BAC required.

Prop. III. *Having the Base, and one of the Oblique Angles; to find the other Oblique Angles.*

Add the Co-Sine of the Base to the Tangent of the Angle given, and from the Sum subtract the Radius, the Remainder shall be the Co-Tangent of the Angle required.

For Example: In the Rectangle ACB, having the Base AB 30 grad. and the Angle ABC 69 gr. 22 min. we would know the Angle BAC.

9.93753.06 the Co-Sine of the Base 30 gr.
10.42418.95 the Tang. of the Angle 69 gr.
10.36172.01 the Co-Tangent of 23 grad. 30
min. for BAC required.

Prop. IV. *Having the Base, and one of the Oblique Angles; to find the side next unto the same Angle.*

Add the Tangent of the Base to the Co-Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Tangent of the side required.

For Example: In the Rectangle ACB, having the Base AB 30 grad. and the Angle ABC 69 grad. 22 min. we would know the side BC.

9.76143.93 the Tang. of the Base 30 grad.
9.54701.88 the Co-Sine of the Angle 69 gr.
22 min.
19.30845.81 the Tangent of 11 gr. 30 min.
for BC required.

Prop. V. *Having the Base, and one of the Oblique Angles; to find the side opposed to the same Angle.*

Add the Sine of the Base to the Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Sine of the side required.

For Example: In the Rectangle ACB having the Base AB 30 grad. and the Angle BAC 23 grad. 30 min. we would know the side BC.

9.69897.00 the Sine of the Base, 30 grad.
9.60069.97 the Sine of the Ang. 23 gr. 30.
19.29966.97 the Sine of 11 grad. 30 min.
for BC required.

Prop. VI. *Having one of the sides, and the Oblique Angle next unto it; to find the Base.*

Add the Co-Tangent of the Base given to the Co-Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Co-Tangent of the Base required.

For Example: In the Rectangle ACB, having the side AC 27 grad. 54 min. and the Angle BAC 23 gr. 30 min. we would know the base AB.

10.27615.63 the Co-tan. of the side 27 gr. 54 m.
9.96239.77 the Co-sine of the Ang. 23 gr. 30 m.
10.23855.40 the Co-tangent of 30 grad. for
AB required.

Prop. VII. *Having one of the sides, and the Oblique Angle next unto it; to find the other side.*

Add the Sine of the side given to the Tangent of the Angle given, and from the Sum subtract the Radius, the Remainder is the Tangent of the side required.

For

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For Example: In the Rectangle ACB having the side AC 27 grad. 54 min. and the Angle BAC 23 grad. 30 min. we would know the side BC.

9.87018.07 the Sine of the side 27 gr. 54 m.
 9.63830.19 the Tan. of the Ang. 23 gr. 30 m.
 19.30848.26 the Tangent of 11 grad. 30 min.
 for BC required.

Prop. VIII. *Having one of the sides, and the Oblique Angle next unto it; to find the other Oblique Angle:*

Add the Co-Sine of the side given to the Sine of the Angle given, and from the Sum subtract the Radius, the Remainder is the Co-Sine of the Angle required.

For Example: In the Rectangle ACB, having the side BC 11 grad. 30 min. and the Angle ABC 69 grad. 23 min. we would know the Angle BAC.

9.99119.27 the Co-sine of the side 11 gr. 30 m.
 2.87120.84 the Tan. of the Ang. 69 gr. 23 m.
 19.96240.11 the Co-sine of 23 grad. 30 min.
 for BAC required.

Prop. IX. *Having one of the sides, and the Angle opposed unto it; to find the Base.*

Add the Radius to the Sine of the given side, and from the Sum subtract the Sine of the Angle given, the Remainder is the Sine of the Base required.

For Example: In the Rectangle ACB, having the side BC 11 grad. 30 min. and the Angle BAC 23 grad. 30 min. we would know the Base AB.

19.19985.73 the Radius added to the Sine of the side 11 grad. 30 min.
 9.60069.97 the Sine of the Angle 23 grad. 30 min.
 9.60897.76 the Sine of 30 grad. for AB required.

Prop. X. *Having one of the sides, and the Angle opposed unto it; to find the other side.*

Add the Tangent of the given side to the Co-Tangent of the given Angle, and from the Sum subtract the Radius, the Remainder is the Sine of the side required.

For Example: In the Rectangle ACB, having the side BC 11 grad. 30 min. and the Angle BAC 23 grad. 30 min. we would know the side AC.

9.30848.26 the Tan. of the side 11 gr. 30 m.
 10.36169.81 the Co-Tan. of the Angle 23 gr. 30 min.
 19.67016.07 the Sine of 27 grad. 54 min. for AC required.

Prop. XI. *Having one of the sides, and the Angle opposed unto it; to find the other Oblique Angle.*

Add the Radius to the Co-Sine of the Angle given, and from the Sum subtract the Co-Sine of the side given, the Remainder is the Sine of the Angle required.

For Example: In the Rectangle ACB, having the side BC 11 grad. 30 min. and the Angle BAC 23 grad. 30 min. we would know the Angle ABC.

19.96240.11 the Radius added to the Co-sine of the Angle 23 grad. 30 m.
 9.99119.27 the Co-sine of the side 11 grad. 30 min.
 9.97120.50 the Sine of 69 grad. 23 min. for ABC required.

Prop. XII. *Having one of the sides, and the Base; to find the Oblique Angles adjacent unto the same side.*

Add the Tangent of the side given to the Co-Tangent of the Base, and from the Sum subtract the Radius, the Remainder is the Co-Sine of the Angle required.

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For Example : In the Rectangle A C B, having the side A C 27 grad. 54 min. and the Base A B 30 grad. we would know the Angle B A C.

9.72384.36 the Tab. of the side 27 gr. 54 m.
10.22856.06 the Co-Tang. of the Ang. 30 gr.
 19.96240.42 the Co-Sine of 23 grad. 30 min.
 for B A C required.

Prop. XIII. *Having one of the sides, and the Base; to find the Angle oppos'd to the same side.*

Add the Radius to the Sine of the side given, and from the Sum subtract the Sine of the Base, the Remainder shall be the Sine of the Angle required.

For Example : In the Rectangle A C B, having the side B C 11 grad. 30 min. and the Base A B 30 grad. we would know the Angle B A C.

19.29965.53 the Radius added to the Sine of side 11 grad. 30 min.
9.62897.80 the Sine of the Base.
 9.60068.53 the Sine of 23 grad. 30 min. for B A C required.

Prop. XIV. *Having one of the sides, and the Base; to find the other side.*

Add the Radius to the Co-Sine of the Base, and from the Sum subtract the Co-Sine of the side given, the Remainder is the Co-Sine of the side required.

For Example : In the Rectangle A C B, having the side B C 11 grad. 30 min. and the Base A B 30 grad. we would know the side A C.

19.93773.06 the Radius added to the Co-Sine of the Base 30 grad.
9.99119.27 the Co-Sine of the side 11 grad. 30 min.
 9.94633.79 the Co-Sine of 27 grad. 54 min. for A C required.

Prop. XV. *Having the two Oblique Angles; to find the Base.*

Add the Co-Tangent of one Angle given to the Co-Tangent of the

other Angle given and from the Sum subtract the Radius; the Remainder is the Co-Sine of the Base required.

For Example : In the Rectangle A C B, having the Angle B A C 23 grad. 30 min. and the Angle A B C 69 grad. 22 min. we would know the Base A B.

10.36165.31 the Co-tangent of 23 gr. 30 min.
9.57581.04 the Co-tangent of 69 gr. 22 min.
 19.93750.35 the Co-sine of 30 grad. for A B required.

Prop. XVI. *Having the two Oblique Angles; to find either of the sides.*

Add the Radius to the Co-Sine of either Angle, and from the Sum subtract the Sine of the other Angle, the Remainder shall be the Co-Sine of the side opposite to the Angle, whose Co-Sine was taken.

For Example : In the Rectangle A C B, having the Angle B A C 23 grad. 30 min. and the Angle A B C 69 grad. 22 min. we would know the side B C.

19.96239.77 the Radius added to the Co-sine of B A C 23 grad. 30 min.
9.97120.34 the Sine A B C 69 grad. 22 min.
 9.99118.93 the Co-sine of 11 grad. 30 min. for B C required.

Figure IV.

Prop. XVII. *Having the three sides to find any of the Angles.*

Add the three sides, and take half the Sum, and the difference betwixt the same half Sum and the Base. This done, add the Sines of two sides together : Add also the Sine of half the Sum of the three sides, the Sine of the said Difference, and the doubled Radius, together ; then out of this Sum subtract the first Sum, and half the Remainder shall be the Co-Sine of half the Angle required.

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For Example : In the Triangle SZP, having the side ZS 40 grad. PS 70 grad. and PZ 38 gr. 30 min. we would know the Angle ZPS.

The Base ZS 40. 0	
The side PS 70. 0	the Sine 9.97298.58
The side PZ 38.30	the Sine 9.79414.25
The Sum 148.30	the Sum 19.76713.13
The half Sum 74.15	the Sine 9.98338.05
The Differ. 34.15	the Sine 9.75035.79
The doubled Radius	20.00000.00
The Sum	39.73373.84
The Remainder	19.96660.31
Half the Remainder	9.98330.15
which is the Co-Sine of 15 grad. 47 min.	
The double whereof is for the Angle ZPS	
31 grad. 34 min.	

Or instead of the Sines, which are to be subtracted, take their Arithmetical Complements, and add them to the Sines of half the Sum and of the said Difference; then half the Sum shall be the Co-Sine of half the Angle required.

0.03701.42	the Ar. Co. of 70 grad. the side.
0.20585.05	the Ar. Co. of 38 grad. the side.
9.98338.05	the Sine of 74 gr. 15 m. half sum
9.75035.79	the Sine of 34 gr. 15 m. the diff.
19.96660.31	the Sum.
9.98330.15	the half Sum is the Co-Sine of
15 gr. 47 min. and the double	
31 grad. 34 min. the Angle	
ZPS required.	

Prop. XVIII. *Having the three Angles; to find any of the sides.*

If for the greater Angle we take his Complement to 180 grad. the Angles shall be turned into sides, and the sides into Angles, and the Operation shall be the same, as in the former Proposition.

Prop. XIX. *Having two Angles, and a side opposed to one of them; to find the side opposed to the other Angle.*

Add the Sine of the side given to the Sine of the Angle opposed to the side required, and from the Sum subtract the Sine of the Angle opposed to the side given, the Re-

mainder shall be the Sine of the side required.

For Example : In the Triangle SZP, having the Angle SZP 130 grad. 3 min. 12 sec. SPZ 31 grad. 34 min. 26 sec. and the side ZS 40 grad. we would know the side PS.

9.80806.75	the Sine of the side 40 grad.
9.88391.45	the Sine of the Ang. 130 gr. 3.12
19.69198.20	the Sum.
9.71899.76	the Sine of the Angle 31 gr. 34.26
9.97298.44	the Remainder, which is the
Sine of 70 gr. for PS required.	

Prop. XX. *Having two Angles, and a side opposed to one of them; to find the side between the Angles given.*

Let a Perpendicular fall from the Angle unknown, upon his opposite side : Then

Add the Co-Sine of the given Angle adjacent unto the given side, to the Tangent of the given side, and from the Sum subtract the Radius, the Remainder shall be the Tangent of the first Arch.

This Arch shall be comprehended between the given Angle adjacent unto the given side, and the Segment of the side where the Perpendicular falls. Now the second Arch comprehended between the same Segment and the other Angle, is to be found thus :

Add the Sine of the Arch found, to the Tangent of the given Angle adjacent unto the given side, and from the Sum subtract the Tangent of the other given Angle, the Remainder shall be the Sine of the second Arch.

The first and second Arch being added together, or else subtracted, you shall have the side required.

For Example : In the Triangle SZP, having the Angle ZPS 31 grad. 34, 26, ZSP 30 grad. 28, 12, and the side PZ 38 grad. 30 min. we would know the side SP.

9.93042.23

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9.93042.22 the Co-Sine of 31 grad. 34, 26,
 the adjacent Angle.
 9.90060.52 the tangent of 38 grad. 30 min.
 the side given.
 19.83202.74 the tangent of 34 grad. 7 and a
 half min. for PR the 1st Arch
 9.74896.30 the Sine of 34 grad. 7 and a half
 min. the Arch found.
 9.78857.56 the tangent of 31 grad. 34, 26,
 the adjacent Angle.
 19.53753.86 the Sum.
 9.76262.83 the tangent of 30 grad. 28, 12,
 the other given Angle.
 9.76791.03 the Sine of 35 gr. 52 min. and
 a half, for SR the 2d Arch.

Now in this Example, adding
 PR 34 grad. 7 $\frac{1}{2}$ min. (the first
 Arch) to SR 35 grad. 52 $\frac{1}{2}$ min.
 (the second Arch) the Sum is 70
 grad. for SP required. In like man-
 ner you may find the side required,
 when the Perpendicular falls out of
 the Triangle propounded.

Prop. XXI. *Having two Angles, and
 a side opposed to one of them; to find
 the third Angle.*

Let a Perpendicular fall from the
 Angle unknown, upon his opposite
 side: Then

Add the Co-Sine of the given side
 to the Tangent of the adjacent An-
 gle, and from the Sum subtract the
 Radius, the Remainder shall be the
 Co-Tangent of the first Angle to be
 found.

This Angle found shall be com-
 prehended by the given side and
 the Perpendicular. Now the second
 Angle, comprehended by the Per-
 pendicular and the side unknown,
 is to be found thus:

Add the Sine of the Angle found,
 to the Co-Sine of the given Angle
 opposed to the given side, and from
 the Sum subtract the Co-Sine of the
 other Angle given, the Remainder
 shall be the Sine of the second
 Angle.

The first and second Angle being
 added together, or else subtracted,
 you shall have the Angle required.

For Example: In the Triangle
 SZP, having the Angle ZPS 38
 grad. 34, 26, ZSP 30 grad. 28, 12,
 and the side PZ 38 grad. 30 min.
 we would know the Angle SZP.

9.89354.44 the Co-sine of 38 grad. 30 min.
 the given side.
 9.78857.56 the tangent of 31 grad. 34, 26,
 the adjacent Angle.
 19.68212.00 the Co-tangent of 64 gr. 18, 50,
 for PZR, the first Angle.
 9.95481.26 the Sine of 64 gr. 18, 50, the
 Angle found.
 9.93545.67 the Co-Sine of 30 grad. 28, 12,
 the opposed Angle.
 19.89026.93 the Sum.
 9.93042.22 the Co-Sine of 31 grad. 34, 26,
 the adjacent Angle.
 9.95984.71 the Sine of 65 grad. 44, 23, for
 SZR the second Angle.

Now in this Example, adding
 PZR 64 grad. 18, 50, (the first
 Angle) to SZR 65 grad. 44, 23,
 (the second Angle) the Sum is 130
 grad. 3, 13, for the Angle SZP re-
 quired. In like manner we may
 find the third Angle, when the Per-
 pendicular falls out of the Triangle
 propounded.

Prop. XXII. *Having two sides, And
 the Angle between them; to find
 either of the other Angles.*

Let a perpendicular fall from the
 angle unknown which you require
 not, upon his opposite side, then

Add the Co-sine of the given an-
 gle, to the Tangent of that given
 side which is opposed to the angle
 required, and from the sum sub-
 tract the Radius, the remainder shall
 be the Tangent of the first arch.

This arch found shall be compre-
 hended between the given angle, and
 the segment of the given side where
 the perpendicular falls.

Now the second arch is compre-
 hended between the same segment
 and the angle required. Then

Add the Sine of the first arch, to
 the Tangent of the given angle, and
 from the sum subtract the Sine of

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the second arch, the remainder shall be the Tangent of the Angle required.

For Example, In the Triangle SZP, having the side PZ 38 gr. 30 min. PS 70 grad. and the Angle ZPS 31 gr. 34, 26, we would know the Angle PSZ.

9,93042,22 the Co-sine of 31 gr. 34, 26, the Angle given.
 9,90060,52 the Tan. of 38 gr. 30 m. the side opposed to the Angle req.
 19,83102,74 the Tan. of 34 Gr. 7 and a half min. the first arch found.
 9,74896,30 the Sine of 34 Gr. 7 and a half min. the first arch found.
 9,78857,56 the Tan. of 31 Gr. 34, 26, the Angle given.

19,53753,86 the Sum.
 9,76791,15 the Sine of 35 Grad. 52 and a half m. the 2d. arch found.
 9,76962,71 the Tan. of 30 Gr. 28. min. for ZSP required.

To find both the Angles unknown.

Add the Sine of half the difference of the given sides, to the Co-

tangent of half the Angle given, and from the Sum subtract the Sign of half the Sum of the given sides, the remainder shall be the Tangent of half the difference of the Angles required.

Add also the Co-sine of half the difference of the given sides, to the Co-tangent of half the Angle given, and from the Sum subtract the Sine of half the Sum of the sides given, the remainder shall be the Tangent of half the Sum of the Angles required.

Then add the half Difference of the Angles found, to the half Sum of the same, and you shall have the greater Angle: And the same half difference being subtracted from the half Sum, you shall have the less Angle required: As in the former Example.

The side PZ 38 Gr. 30, 0.

The side PS 70 Gr. 0, 0.

The sum 108 Gr. 30, 0.

The half sum 54 Gr. 15, 0.

The diff. of the Sides 31 Gr. 30, 0.

The half diff. 15 Gr. 45, 0.

The angle ZPS ... 31 Gr. 34, 26.

The half angle 15 Gr. 47, 13.

The sum 19,98230,98

The Tangent of 49 Gr. 47, 30.

Half the difference of the Angles is 49 Gr. 47, 30.
 Half the sum is 80 Gr. 15, 42.

The Sine 9,90932,81 The Co-Sine 9,76659,89

The Sine 9,43367,46 The Co-Sine 9,98338,05.

Co-tang. 10,54863,52 The Co-tan. 10,54863,52

The sum 20,53201,57

The sum 10,07298,17 Tan. 80,15,42. 10,76411,72

49 Gr. 47, 30.

80 Gr. 15, 42.

The sum 130 Gr. 3, 12. for SZP.

The diff. 30 Gr. 28, 12. for ZSP.

Prop. XXIII. Having two sides, and the Angle between them; to find the third side.

Let a perpendicular fall from either of the Angles unknown, upon his opposite side, then

Add the Co-sine of the given angle, to the Tangent of the side from whose end the perpendicular is let fall, and from the sum subtract the Radius, the remainder shall be the Tangent of the first arch.

This arch shall be comprehended between the angle given, and the segment of the side where the perpendicular falls.

Now the second arch shall be comprehended between the same segment, and the end of the side required. Then

Add the Co-sine of the second arch found, to the Co-sine of the side from whose end the perpendicular falleth, and from the sum subtract the Co-sine of the first arch found, the remainder shall be the Co-sine of the side required. For

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For Example, In the Triangle SZP, having the side P Z 38 gr. 30 min. P S 70 grad. and the angle Z P S 31 gr. 34, 26, we would know the side Z S.

9.93042.22 the Co-sine of 31 Grad. 34, 26, the angle given.

9.93060.52 the Tangent of 38 Grad. 30 m. the side P Z

19.83102.74 the Tangent of 34 Grad. 7 and a half m. for PR the first arch.

9.91793.36 the Co-sine of 34 Gr. 7 and a half min. the first arch.

9.90864.44 the Co-sine of 35 Gr. 52 and a half m. for RS the 2d. arch.

9.89354.44 the Co-sine of 38 Gr. 30 m. the side P Z

19.80218.88 the sum.

9.88495.52 the Co-sine of 40 Gr. for Z S the side required.

Prop. XXIV. Having two sides; and one Angle oppos'd to one of them; to find the Angle oppos'd to the other side.

Add the Sine of the Angle given, to the Sine of the side oppos'd to the Angle required, and from the sum subtract the Sine of the side oppos'd to the Angle given, the remainder shall be the Sine of the angle required.

For Example. In the Triangle SZP, having the side P S 70 grad. Z S 40 grad. and the Angle SZ P 130 grad. 3, 12, we would know the angle S P Z

9.88391.45 the Sine of 130 Gr. 3, 12, the Angle given.

9.80806.75 the Sine of 40 Gr. the side oppos'd to the Angle required.

19.69198.20 the sum.

9.97298.58 the Sine of 70 Gr. the side oppos'd to the Angle given.

9.71899.62 the Sine of 31 Gr. 34 min. for S P Z required.

Prop. XXV. Having two sides, and one Angle oppos'd to one of them; to find the third side.

Let a perpendicular fall from the Angle between the sides given, upon his opposite side, then

Add the Co-sine of the Angle given, to the Tangent of the given side which is adjacent unto the same Angle, and from the sum subtract the Radius, the remainder shall be the Tangent of the first arch.

This first arch shall be comprehended between the given Angle, and the segment of the side where the perpendicular falls. Now the second arch between the same segment and the end of the side required, shall be found thus.

Add the Co-sine of the first arch found, to the Co-sine of that given side which is oppos'd to the Angle given, and from the Sum subtract the Co-sine of the other side given, the remainder shall be the Co-sine of the second Arch, the first and second Arch being added together, or else subtracted, you shall have the side required.

For Example. In the Triangle SZ P, having the side P Z 38 grad. 30 min. SZ 40 grad. and the angle S P Z 31 grad. 34, 26, we would know the side P S.

9.93042.22 the Co-sine of 31 Gr. 34, 26, the Angle given.

9.90060.52 the Tangent of 38 Gr. 30 min. the adjacent side.

19.83102.74 the Tan. of 34 Gr. 7 and half min. for P R the first arch.

9.91793.36 the Co-sine of 34 Gr. 7 and a half m. for P R the first arch.

9.88425.40 the Co-sine of 40 Gr. the side oppos'd to the Angle given.

19.80218.76 the Sum.

9.89354.44 the Co-sine of 38 Gr. 30 min. the other side given.

9.90864.32 the Co-sine of 35 Gr. 52 and a half min. for S R the second arch.

Now in this Example, P R 34 gr. 7 and a half min. (the first arch) being added to S R 35 gr. 52 and a half min. (the second arch) the Sum is 70 grad. for P S the side required.

Prop.

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Prop. XXVI. Having two sides and one Angle oppos'd to one of them; to find the Angle between them.

Let a Perpendicular fall from the Angle between the sides given, upon his opposite side. Then

Add the Co-sine of that given Side which is adjacent unto the given Angle, to the Tangent of the same Angle; and from the Sum subtract the Radius, the remainder shall be the Co-tangent of the first Angle to be found.

This first Angle found shall be comprehended by that given side which is adjacent unto the Angle given, and by the Perpendicular. Now the second Arch comprehended by the Perpendicular and the other given side, is to be found thus,

Add the Co-sine of the first Angle found, to the Tangent of the given side which is adjacent unto the Angle given, and from the Sum subtract the Tangent of the other given side, the Remainder shall be the Co-sine of the second Angle to be found.

The Sum, or the Difference of the first and second Angle, shall be the Angle required.

For Example. In the Triangle SZP , having the side PZ 38 gr. 30 min. SZ 40 grad. and the Angle SPZ 31 grad. 34, 26, we would know the Angle SZP .

9.89354.44 the Co-sine of PZ 38 Gr. 30 m.
the side adjacent.
9.78857.56 the Tan. of SPZ 31 gr. 34, 26,
the Angle given.
19.68212.00 the Co-tan. of 64 Gr. 18, 50, for
 PZR the first Angle.
9.63692.96 the Co-sine of 64 Gr. 18, 50, the
Angle found.
9.90060.52 the Tangens of 38 Gr. 30 min.
the side adjacent.
19.53753.48 the Sum.
9.92381.35 the Tan. of 40 Grad. the other
given side.
9.61372.13 the Co-sine of 64 Gr. 44, 23. for
 SZR the second Angle.

Now in this Example, adding PZR 64 grad. 18, 50, (the first Angle) to SZR 64 grad. 44, 23, (the second Angle) found, the Sum is 130 grad. 3, 13, for SZP the Angle required.

Here is to be noted; If you would add the Arithmetical Complement of a Tangent to the others instead of Subtraction, that they are expressed in the Canon: For (neglecting the first Unit on the left Hand) the Co-tangents of the Archs or Angles less then 45 grad. are the Arithmetical Complements thereof; but the Co-tangents of the Archs or Angles greater then 45 grad. may be taken for Arithmetical Complements, if from the Sum be subtracted 2 on the left hand instead of an Unit.

Prop. XXVII. Having two Angles, and the side between them; to find either of the other sides

Let a Perpendicular fall from that Angle given which is adjacent unto the side required, upon his opposite side. Then

Add the Co-sine of the given side to the Tangent of that given Angle which is oppos'd to the side required, and from the Sum subtract the Radius; the remainder shall be the Co-tangent of the first Angle to be found.

This Angle found shall be comprehended by the given side, and the Perpendicular. Now the second Angle is comprehended by the Perpendicular and the side required. Then

Add the Co-sine of the first Angle found, to the Tangent of the side given, and from the Sum subtract the Co-sine of the second Angle found, the remainder shall be the Tangent of the side required.

For Example. In the Triangle SZP , having the Angle SPZ 31 gr. 34, 26. SZP 130 gr. 3, 12, and the side

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side P Z 38 grad. 30 min. we would know the side S Z.

9.89354.44 the Co-sine of 38 Grad. 30 min. the side given.

9.78857.46 the Tan. of 31 Grad. 34.26, the oppoſed Angle.

19.66212.00 the Co-tan. of 64 Gr. 12.50, for P Z R the first Angle.

9.63692.96 the Co-sine of 64 Gr. 12.50, the Angle found.

9.90060.52 the Tan. of 38 Gr. 30 min. the side given.

19.53753.48 the Sum.

9.61372.21 the Co-sine of 85 Gr. 44. 22, the second Angle.

9.92381.2 the Tan. of 40 Gr. for S Z the side required.

To find both the sides unknown

Add the Sine of half the Difference of the Angles given, to the Tangent of half the side given, and from the Sum subtract the Sine of

half the Sum of the Angles given; the remainder shall be the Tangent of half the Difference of the sides required.

Add also the Co-sine of half the difference of the Angles given, to the Tangent of half the side given, and from the Sum subtract the Co-sine of half the Sum of the Angles given, the remainder shall be the Tangent of half the Sum of the side required.

Then add the half Difference of the sides found, to the half Sum of the same, and you shall have the greater side; and the same half Difference being subtracted from the half Sum, you shall have the less side required. As in the former Example.

The Angle SPZ 31 Gr. 34. 26.

The Angle SZP 130 Gr. 3. 12.

The Sum 161 Gr. 37. 38.

The half Sum 80 Gr. 48. 49.

The diff. of the Angles 98 Gr. 28. 46.

The half difference 49 Gr. 14. 23.

The Side P Z 38 Gr. 30. 0.

The half Side 19 Gr. 15. 0.

The Sum 19.42244.63.

The Tangent of 15 Gr. 9.42805.25.

Half the difference of the Sides is 15 Gr. 0.

Half the Sum is 55 Gr. 0.

The Sum 70 Gr. 0. for S P.

The differ 40 Gr. 0. for S Z.

The Co-Sine 9.81484.37.

the Sine 9.87935.27.

the Tangent 9.54309.36.

the Tang. 9.54309.36.

the Sum 19.35792.73.

the Tan. of 55 gr. 10. 15477.33.

the Sum 19.42244.63.

the Sum 19.42244.63.

the Sum 19.42244.63.

the Sum 19.42244.63.

the Sum 19.42244.63.

Prop. XXVIII. Having two Angles, and the side between them, to find the third Angle.

Let a Perpendicular fall from either of the Angles given, upon his opposite side. Then

Add the Co-sine of the Side given, to the Tangent of the given Angle, from which the Perpendicular falls not, and from the Sum subtract the Radius; the remainder shall be the Co-tangent of the first Angle.

This Angle found shall be comprehended by the given Side and the Perpendicular. Now the second An-

gle is comprehended by the Perpendicular and the Side oppoſed to the other Angle given. Then

Add the Sine of the second Angle found, to the Co-sine of that given Angle from which the Perpendicular falls not, and from the Sum subtract the Sine of the first Angle found; the remainder shall be the Co-sine of the Angle required.

For Example. In the Triangle SZP, having the Angle SZP 130 gr. 3.12. SPZ 3 gr. 34.26. and the Side PZ 38 gr. 30 min. we would know the Angle P S Z.

9.8; 354.44

9.89354.44 the Co-sine of 38 Gr. 30 min. the Side given.
 9.78857.56 the Tan. of 31 Gr. 34, 26.
 19.68212.00 the Co-tangent of 64 gr. 18, 50 for PZR the first Angle.
 9.95481.26 the Sine of 64 Grad. 18, 50. the first Angle found.

9.95984.54 the Sine of 65 Gr. 44, 22, the second Angle found.
 9.93041.22 the Co-sine of 31 Gr. 34, 26.
 19.89026.76 the Sum.
 9.93545.50 the Co-sine of 30 Grad. 28 min. for PSZ required.

Chap. VI. The Use of the Table of Versed Sines.

THE Uses of the Table of Versed Sines are too numerous to be here all treated of: I shall now only shew how by them more easily to solve some of the most useful Cases of Spherical Triangles, which alone is enough to merit their Publication. It has been a long time the Votes and Desires of many able Men in the Mathematics, that such a Table might be collected and publish'd, but especially of that ingenious and ancient Student Mr. John Collins, who has expressed his desire thereof more than once in his elaborate pieces and from whom I had the *Locus* of some Foreign Tables, which did assist much towards the composing of these.

Prop. 1. Two sides of an Oblique Spherical Triangle, with the Angle comprehended, being given, to find the 3d. side;

As the Cube of the Radius : Is to the Rectangle of the Sines of the comprehended sides, :: So is the Square of the Sine of half the contained Angle, : To half the Difference of the Versed Sines of the 3d. side, And of the Ark of Difference between the two including sides.

Which is thus, double the Log. Sine of half the Angle given, and thereto add the Log. Sines of the containing sides, and from the left Hand of the Sum, dash out 3 for the Cube of the Radius, so rests the Log. of half the difference of those two Versed Sines.

Which half difference doubled, and added to the Versed Sine of the difference of the Legs or containing sides, gives the Versed Sine of the side sought.

Exam. 1. In the Triangle

Figure 5. BPL , let there be given the side BP $77^{\circ} 00'$, the side PL $40^{\circ} 00'$, and the contained Angle BPL $52^{\circ} 30'$, to find the side BL .

The Log. Sine $40^{\circ} 00'$. . . 9.8080675

The Log. Sine of $77^{\circ} 00'$. . . 9.9878739

The Log. Sine of $26^{\circ} 15'$ 19.2914116
 doubled.

The Natural Sine against . . . 39.0882030

Is 1227355, whose double is: 2454710
 The Natural Vers. Sine of $37^{\circ} 00'$ 2013645
 the dif. of the two sides is.

The Versed Sine of $37^{\circ} 53'$ 4408355
 the side sought.

If you make the third Term, the Square of the Sine of half the Complement of the contained Angle to 180 degrees, you will find the half difference of the Versed Sines of the third side, and of the Sum of the two including sides to be doubled, and subtracted from the Versed Sine of the said Sum.

But if instead of the second Term be taken into the Proportion, the double of the Rectangle of the Sines of the containing sides, that is, if the Log. of the Number 2 be added to the Log. of the other middle Terms, you will have the Log. of the whole difference in the last place; having found it, take the Natural Sine that stands against it, and add it to the Natural Versed Sine of the difference of the Legs, and the Sum is the Natural Versed Sine of the side sought.

Exam. 2. Let the two containing sides be $38^{\circ} 30'$ and $66^{\circ} 30'$, and the contained Angle be $20^{\circ} 00'$.

The log. Sine of $38^{\circ} 30'$. . . 9.7941496

The log. Sine of $66^{\circ} 30'$. . . 9.9613978

The log. of the Number 2 . . . 0.3010300

The log. Sine of $15^{\circ} 00'$ doubled is 18.8259924

The nearest Nat. Sine against 38.8835698

66. 30 Is. . . 770091

38 30 Which taken from the Nat. 1170714

Versed Sine of $28^{\circ} 00'$. . .

28 00 There remains . . . 300433

the Natur. Versed Sine of $53^{\circ} 10'$.

This Prop. is of great Use to Calculate the Distances of Places on Earth, according to the Arch of a great Circle, by their Long. and Latit. given; the Distances of Stars, by having their Declinations and Right Ascensions, or Longitudes and Latitudes given, by means whereof the Altitudes of two Stars, or of the Sun with the Difference of time or Longitude being observed at any time off the Meridian, the Latitude may be found.

G H A P. VII.

*Of Compound Interest and Annuities, by Mr.
Edm. Halley, Savilian Professor of Geo-
metry in the University of Oxford, and
F. R. S.*

A Principal Use of Logarithms, is to solve all the Cases of Compound Interest, which are not without great Difficulty attainable by the Rules of Common Arithmetick. But before we proceed to the practical part, it may perhaps not be improper to say something of the Foundation or Demonstration of the Rules we are to give. Therefore let s be any Sum of Money forborn t Times: r the Rate of Interest, or produce of one Pound and its Interest in one time; that is us t to r is one Pound to its amount, after one Year, or other Space of time: and let v be the amount of the Sum s forborn t times. Now because in one Year or Time unity becomes r , by the same reason r will in another time become r^2 , and r^2 in a 3^d time become r^3 . It appears that r^x raised to the Power, whose Index is the Number of Times, will be the amount of one Pound forborn x times, and therefore $s \cdot r^x$ will be equal to v the amount. Wherefore multiply the Logarithm of s by x and to it add the Logarithm of r , the Sum shall be the Logarithm of v , which is the Solution of this last Problem.

II. r is equal to $\frac{v}{s}$; therefore if from the Logarithm of v the Logarithm of s be subtracted, and the remainder be divided by x , the Quote is the Logarithm of r .

III. Because r is equal to $\frac{v}{s}$; if you divide the Difference of the Logarithms of v and s by the Logarithm of r , the Quote is t , or the time wherein the Sum s will amount to v at the rate r .

IV. $\frac{v}{s}$ is equal to r^x ; therefore if you multiply the Logarithm of s by x and subtract the Product from the Log. of v , the remainder shall be the Log. of r the Principal sum.

T t

Again,

Again, all Questions concerning the Rebate of Money are solv'd with the same Ease, and after the same manner: For if in any time, r becomes 1, in the same time 1 becomes $\frac{1}{r}$, and in the second time $\frac{1}{r}$ becomes $\frac{1}{r^2}$, and in the third $\frac{1}{r^3}$, &c. so that the Value or Present worth v , of any Sum s , after any time t , at the rate of r to 1 will be found to be $\frac{s}{r^t} = v$. Wherefore multiply the Log. of r by t , and subtract the Product from the Log. of s , the remainder will be the Log. of v : which finds the Value of any Sum of Money payable after any time assigned.

II. $\frac{s}{v} = r^t$. Therefore from the Log. of s subtract the Log. of v , and divide the remainder by t : the Quote will be the Log. of r .

III. Divide the aforesaid difference of the Log. of s and v by the Log. of r , the Quote shall be the Number of Years.

Note, That Examples to the preceding Cases are at the beginning of this Book in pag. 11.

IV. To find what Sum, payable after t times, may be purchased for v at the rate of Interest r ; the Theorem stands thus: multiply the Log. of r by t and to the Product add the Log. of v : the Sum shall be the Log. of s sought.

Here Note, because the Money is to be valued in Pounds and parts of 1*l.* and the time in Years and parts of a Year, it will be most Commodious to reduce those Parts into Decimals (then the Work is the same as in whole Numbers) for which purpose the Two decimal Tables are annexed.

A decimal Table for every Farthing in 3*d.* and every 3*d.* in 1*l.*

Farthings	d	0 s	1 s	2 s	3 s	4 s	5 s	6 s	7 s	8 s	9 s	d
1.00104167	0		.05	.1	.15	.2	.25	.3	.35	.4	.45	0
2.00208333	3	.0125	.0625	.1125	.1625	.2125	.2625	.3125	.3625	.4125	.4625	3
3.003125	6	.025	.075	.125	.175	.225	.275	.325	.375	.425	.475	6
4.00416667	9	.0375	.0875	.1375	.1875	.2375	.2875	.3375	.3875	.4375	.4875	9
5.00520833												
6.00625												
7.00729167	d	10 s	11 s	12 s	13 s	14 s	15 s	16 s	17 s	18 s	19 s	d
8.00833333	0	.5	.55	.6	.65	.7	.75	.8	.85	.9	.95	0
9.009375	3	.5125	.5625	.6125	.6625	.7125	.7625	.8125	.8625	.9125	.9625	3
10.01041667	6	.525	.575	.625	.675	.725	.775	.825	.875	.925	.975	6
11.01145833	9	.5375	.5875	.6375	.6875	.7375	.7875	.8375	.8875	.9375	.9875	9

The decimal parts of a *l.* may be valued by the preceding *Table*, or at sight thus, viz. the first Figure doubled is Shillings, the second and third joyn'd are Farthings, abating one for every 25 for 1025 is 6 *d.* .050 is 1 *s.* and .075 is 18 *d.*

A decimal Table of Days and Months in a Year.

Note. That every Column begins with the Decimal of an even 10 Days, and increases downwards, so the Decimal of 20 Days is .054795 of 21 .057524.

	10 Da's	20 Da's	30 Da's	40 Da's	50 Da's	60 Da's	70 Da's	80 Da's	90 Da's	
0	.027397	.054795	.082192	.109589	.136986	.164384	.191781	.219178	.246575	0
1	.002740	.030137	.057534	.084932	.112329	.139726	.167123	.194521	.221918	1
2	.005479	.032877	.060274	.087671	.115068	.142466	.169863	.197260	.224658	2
3	.008219	.035616	.063014	.090411	.117808	.145205	.172603	.200000	.227397	3
4	.010959	.038356	.065753	.093151	.120548	.147945	.175342	.202740	.230137	4
5	.013699	.041096	.068493	.095890	.123288	.150685	.178082	.205479	.232877	5
6	.016438	.043836	.071233	.098630	.126027	.153425	.180822	.208219	.235616	6
7	.019178	.046575	.073973	.101370	.128767	.156164	.183562	.210959	.238356	7
8	.021918	.049315	.076712	.104110	.131507	.158904	.186301	.213699	.241096	8
9	.024658	.052055	.079452	.106849	.134247	.161644	.189041	.216438	.243836	9
Months	Decim.	Months	Decim.	Months	Decim.	Months	Decim.	Months	Decim.	
1	.083333	4	.333333	7	.583333	10	.833333	13	.083333	
2	.166667	5	.416667	8	.666667	11	.916667	14	.166667	
3	.25	6	.5	9	.75	12	1.	15	.25	

The following *Table* shews the exact number of Days from any Day proposed in any Month, to the same day of any other Month throughout the Year: For Instance, from the 1, 10th or 20th of June to the 1, 10th or 20th of March is 273 Days. I find June at the Head and look down that Column, and over against March in a right Line is 273, so if it was from the 15 of June to the 16 of March. I consider, that the Number of Days is one more then 273, viz. 274 days. The same way is found any number of Days in any time under a Year by Inspection.

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Jan.	365	334	306	275	245	214	184	153	122	92	61	31	Jan.
Febr.	31	365	337	306	276	245	215	184	153	123	92	62	Feb.
Mar.	59	28	365	334	304	273	243	212	181	151	120	90	Mar.
Apr.	90	59	31	365	335	304	274	243	212	182	151	121	Apr.
May	120	89	61	30	365	334	304	273	242	212	181	151	May
June	151	120	92	61	31	365	325	304	273	243	212	182	June
July	181	150	122	91	61	30	365	334	303	273	242	212	July
Aug.	212	181	153	122	92	61	31	365	334	304	273	243	Aug.
Sept.	243	212	184	153	123	92	62	31	365	335	304	274	Sept.
Oct.	273	242	214	183	153	122	92	61	31	365	334	304	Oct.
Nov.	304	273	245	214	184	153	123	92	61	31	365	335	Nov.
Dec.	334	303	275	244	214	184	153	122	91	61	30	265	Dec.

The Logarithms are also serviceable to resolve all Questions concerning the Amount or Present worth of Annuities, not paid as due, or purchased to be paid for time to come. Let therefore a be any Annuity or yearly Pension, whose successive amounts for times past are ar^t , and whose present Values are $\frac{a}{r^t}$ successively, by what goes before: And the Series, &c. ar^t ,

$ar^t, ar^3, ar^2, ar, a, \frac{a}{r}, \frac{a}{r^2}, \frac{a}{r^3}, \frac{a}{r^4}, \frac{a}{r^5}$ &c. will be a rank of mean Proportionals continued infinitely in the ratio of r to 1: now the Sum of all the Consequents, or of the whole infinite Series, will be to the said Sum encreased by the next greater Term (or the Sum of all the Antecedents) as 1 to r (by 12.5 *Elem. Eucl.*) Wherefore putting y for the said Sum of the Consequents ry will be equal to $y + ar^t$, the Sum of the Antecedents; and $ry - y = ar^t$: and therefore $\frac{ar^t}{r-1}$ will be equal to y , the Sum of all our mean Proportionals, whereof ar^{t-1} is the greatest. And by the same Rule $\frac{a}{r-1}$ will be the Sum of all the Terms whereof $\frac{a}{r}$ is the greatest. So that if we subtract

$\frac{a}{r-1}$ from $\frac{ar^t}{r-1}$ the difference will be the Sum of all the terms, whereof ar^{t-1} is the greatest and a the least, their Numb. being t ; which Sum we will call z . z therefore is thus to be expressed $\frac{a \times r^t - a}{r-1} =$ to the amount of the Annuity a forborn t times at the rate r . Wherefore from the Logarithm of a subtract the Log. of $r-1$, and to the remainder add the Log. of r^t . From the Number answering to this last Sum, subtract the Number answering to the remainder, the Difference shall be the amount sought.

Example, What will an Annuity of 34. 4l. forborn 12 $\frac{1}{2}$ Years amount to at 6 per Cent. per Annum.

Log. $a = 34.4 =$	1.5365584	
Log. $r-1 = 0.06 =$	8.7781513	
Remainder	2.7584071	Numb. 573.333 &c.
Log. $r^t =$	0.3163237	
	3.0747308	Numb. 1187.7661
		614.4328 = z

The

ral method for Resolution of Equations, unless we can first approach it by some other means. For which purpose take the following Rule (which will suffice where extream Exactness is not demanded.) Let $\frac{t-1}{\sqrt{at}} = 1 + y$, and let $\frac{6}{t+1} = b$. I say, that $\sqrt{bb + 2by} - b$ is exceeding near the Increase of the Rate or $r - 1$.

Wherefore from Log. of the Amount, subtract the Sum of the Log^m of the Time and Annuity, and the Remainder divide by $\frac{t-1}{2}$. The Quote shall be the Log. of $1 + y$. From the Log. of 6, subtract the Log. of $t + 1$, and to b the Number answering to the Remainder, add twice y . To the said Remainder add the Log. of $b + 2y$, and half the Sum shall be Log. of $\sqrt{bb + 2by}$, from which square Root subtract b . the residue will be very near the Increase, or $r - 1$: and adding 1, the rate r is found. If extream Exactness be desired let r thus found be assum'd, and $\frac{z}{a}r - r^t$ compared with $\frac{z}{a} - 1$; will always be greater than it: and dividing the Excess by $t r^{t-1} - \frac{z}{a}$, the Quote added to r shall verify as many more Figures in the rate as were true in the assumed r .

Example.

An Annuity of 34. 4*l.* forborn 12 $\frac{1}{2}$ Years amounts to 614*l.* 43*s.* 8. It is required what rate of Interest is allowed..

$$2.7884744 \text{ Log. } z.$$

$$1.0969100 \text{ Log. } t.$$

$$1.5365586 \text{ Log. } a.$$

$$2.6334686$$

$$\frac{t-1}{2}) 0.1550058 \text{ (} 0.269575 = \text{Log. } 1 + y = 1.06404$$

$$2y = .12808$$

$$\frac{6}{13 \frac{1}{2}} = \frac{6}{t+1} = b = 0.44444, \text{ &c. Log. } 9.6478175$$

$$b + 2y = y 0.57252$$

$$\text{Log. } 9.7577936$$

$$bb + 2by \text{ Log. } 19.4056111$$

$$0.504435 = \sqrt{} 9.7028095$$

$$444444$$

$$.059991 = r - 1 \text{ wherefore}$$

$$1.059991 = r.$$

I. After

I. After the same manner the four Cases relating to the Purchase of Annuities are readily solved by Log^{ms}, and the Theorems discovered with the same Ease; for $a, \frac{a}{r}, \frac{a}{r^2}, \frac{a}{r^3}, \frac{a}{r^4}, \&c.$ being a Scale of mean proportionals in the ratio of r to 1, put y for the Sum of all the Consequents infinitely continued, whereof $\frac{a}{r}$ is the first, and that Sum will be to the Sum of all the Antecedents whereof a is the first, as 1 to r . that is $1. r :: y. ry.$ so that $ry = y + a$, and $\frac{a}{r-1}$, will be equal to y the value of the Fee, or the Sum of all the mean proportionals less than a . And by the same Rule $\frac{a}{r^2 \times r-1}$ will be the Sum of all the means less than $\frac{a}{r^2}$, or the value of the Reversion; and subtracting the one Sum from the other $\frac{a}{r-1} - \frac{a}{r^2 \times r-1}$ will be equal to z the Sum of all the means, whereof $\frac{a}{r}$ is the greatest, and $\frac{a}{r^2}$ the least. Wherefore from Log. of the Annuity subtract Log. of $r-1$, and from the residue subtract also the Log. of r^2 , the difference of the Numbers answering to the two Remainders is the present Value sought.

Example.

What is 70*l.* per Annum to continue 59 Years worth in present Money, at the rate of 5 per Cent. per Annum.

log. 0.0211893	1.8450980.	Log. 70, = a
59	8.6989703	Log. .05 = r - 1
0.1907037	3.1461280	Log. 1400 = The Fee
1.059465	1.2501687	
1.2501687	1.8959593	Log. 78.6972 The Reversion
		1321.3028 The Value sought.

The same Equation may be reduced to the following Proportion, as $r-1$ to a , so $1 - \frac{1}{r^2}$ to z the present Value sought.

Wherefore take Ar. Co. of Log. of r^2 , and subtract from Unity the Number answering thereto. To Log. of the Remainder add Log. of a and Ar-Co of $r-1$, the Sum shall be Log. of z . As in the former Example,

Log.

$$\text{Log. } r = 1.2501687$$

$$\text{Ar. Co. } 8.7498313 = 1.050128$$

$$.9437877 \text{ Log. } 9.9748742$$

$$\text{Log. } a = 1.8450980$$

$$\text{Co. Ar. } 1.3040300 \text{ } r - 1$$

$$\text{Log. } x = 3.1210022 = 1321.3028$$

II. If the Time be sought, having the Annuity, present worth and rate of Interest given, r will be equal to $\frac{a}{r-1}$ (or the Fee)

divided by the Value of the Reversion, that is by $\frac{x}{r-1}$

Whence the Rule. From Log. of the Annuity, subtract the Log. of the Interest or $r-1$; with what remains, seek the Natural Number, which will be the Value of the Fee; from it subtract the present worth, the residue is the Value of the Reversion. Take the Log. thereof from the Log. of the Fee, and the residue will be Log. of r . Wherefore divide that residue by Log. of r , the Quotient will be t the number of Years sought.

Example.

In what Time will an Annuity of 70 l. per Annum pay off a Debt of 1321 l. 3028. allowing the Creditor 5 per Cent. per Ann.

$$1.8450980 \text{ Log. } 70 = a$$

$$8.8989700 \text{ Log. } .05 = r - 1$$

$$9.1461280 \text{ Log. } 1400 = \text{The Fee.}$$

$$\text{Log. rev. } 1.8959593$$

$$1321.3028 = x$$

$$0.0211893) 1.2501687 (59.786972 = \text{Reversion.}$$

Of this, to Log. of x add Log. of $r-1$, the Number answering to the Sum subtract from the Annuity a . The Log. of the Remainder taken from Logarithm of a leaves the Log. of r as before.

$$\text{Log. } x = 3.1210023$$

$$\text{Log. } 70 = 1.8450980$$

$$\text{Log. } r - 1 = 8.8989700$$

$$70$$

$$\text{Log. } 3.9340300 = 9949293$$

$$- 1.8199723 \text{ Log. } 66.05514 \text{ Log. } r = 1.2501687 \text{ as bef.}$$

$$3.9340300$$

III. Having the Time, Rate of Interest, and present worth proposed, to find what Annuity that Sum shall purchase. By transposing the Proportion mentioned in the first Problem, it will be as $1 - \frac{1}{r^t}$ to x , so $r-1$ to a the Annuity sought.

Wherefore from the Sum of the Logarithms of x and $r-1$ subtract the Log. of $1 - \frac{1}{r^t}$, the Remainder shall be Log. of a .

Example.

Example.

What Annuity to continue 59 Years can be purchased for 1321.3028 l. at the rate of five per Cent. per Annum.

$$\text{Log. } r^t = 1.2501687$$

$$\text{Co. Ar. Log. } \frac{1}{r^t} = 8.7498313 = .50562123$$

$$1 - \frac{1}{r^t} = .9437877 \quad \text{Log. } \underline{9.9748742}$$

$$\text{Log. } z = 3.1210022$$

$$\text{Log. } r-1 = 8.6989700$$

$$\underline{1.8199722}$$

$$\underline{9.9748742}$$

$$\text{Log. } a \quad 1.8450980 = 70$$

• IV. The Annuity, its present worth, and time of Continuance being proposed. It is required to find the Rate of Interest, that is a , z and t being given to seek r .

This Problem being of more Difficulty than appears at first Sight, and requiring the solution of this Equation $\frac{a}{z} = \frac{z+a}{z} r^t$

$= r^{t+1}$, to which it is reduced; there must be applied some Method of approaching the Root r , which is by no means evident: And that Approximation as the Number of Years and Rate are greater or less, cannot properly be obtained by one general Rule; but rather by two, according as the Value of the Reversion is greater or lesser.

If the number of Years be great (as suppose 40 or upwards) especially if the Rate of Interest be high. $1 + \frac{a}{z}$ will be nearly

the Rate, or more accurately $\frac{z+a}{z} - \frac{z^2}{z+a} \times \frac{a}{z}$. Call it r :

and $\frac{a}{r^t \times r-1}$ will be exceeding near the Value of the Reversion.

Let it be x , then $1 + \frac{a}{z+x}$ shall approach the true Rate sufficiently. But if greater accuracy be desired, by repeating this process you cannot fail of your Desire. Hence this Rule: From Log. of a , as also from Log. of $z+a$, take Log. of z , this latter Remainder shall be nearly the Log. of the Rate Multiply that Log. by t , and to the Arithmetical Complement of the Product, add the first Remainder. The Decimal answering to the Sum taken from the former Rate shall give a more correct

V v

Rate.

Of Compound Interest and Annuities.

Rate. With that Rate, seek the Reversion after the Time given = x , which add to z . From Log. of a take Log. of $z + x$: The Remainder shall be the Log. of the Interest or $r - 1$ sufficiently near.

Example.

1321. 3028 l. is paid for an Annuity of 70 l. per Annum for 59 Years to come. I demand the Rate of Interest allowed the Purchaser.

$$\begin{array}{rcl}
 a \text{ Log. } 1.8450980 & z + a \text{ Log. } 3.1434217 & \\
 z \text{ Log. } 3.1210022 & z \text{ Log. } 3.1210022 & \\
 \hline
 8.7240958 & 0.0224195 & 1.052978 \\
 & 59 & 002520 - \\
 \hline
 1.050458 = r \text{ Log. } 0.0213787 & 1.322750. & 1.050458 = r \\
 & 59 & 8.677250 \text{ Co. Ar. } \frac{a}{r} \\
 \hline
 \log. r^t & 1.2613433 & 8.724096 \text{ Log. } \frac{a}{r} \\
 1.050458 = r - 1 = & 8.7029300 & 7.401346. \text{ Log. } 002520. \\
 & 9.9642733 & \\
 \hline
 \text{Co. Ar. } 0.0357267 & & \\
 \text{Log. } a & 1.8450980 & 1321.303 = z \text{ Log. } a \text{ } 1.8450980 \\
 & 1.8808247 & 76.002 = \text{Reversion} = x \\
 & & 1397.305 = \text{Fee } z + x \text{ Log. } 3.1452912 \\
 & & \text{Interest sought } .050096 \text{ Log. } 8.6998068
 \end{array}$$

If the number of Years be small, the aforefaid Rule will avail little. In this Case it will be requisite to approach the Rate thus. Let $\frac{r+1}{2}$ be the Index of a Root of $\frac{a}{r}$; from which Root take Unity, and the remainder call y , and let $\frac{6}{t-1}$ be called b . I say, that $1 + b = \sqrt[t]{b b - 2 b y}$ is sufficiently equal to r the Rate sought, and will be still nearer the Truth, as the Number of Years is smaller; and the Error that is will be always in Excess. Hence the Rule: Divide the Logarithm of $\frac{a}{r}$ by $\frac{r+1}{2}$ and from the Number answering to the Quote take Unity: Double the Remainder, and subtract it from b ; that is from the Quote of six divided by $t - 1$: To the Logarithm of what remains, add the Log. of b . Then the Number answering to half the Sum of those Logarithms taken from $1 + b$ will leave the Rate sought.

Exam.

Example.

An Annuity of 20 l. per Annum, to continue 21 Years, is sold for 220 l. I demand the rate of Interest allowed the Purchaser.

$$\begin{array}{rcl}
 a = 20 & \text{Log.} & 1.3010300 \\
 t = 21 & \text{Log.} & 1.3222193 \\
 \hline
 a \times t & & 2.6232493 \\
 z = 220 & \text{Log.} & 2.3424227 \quad \text{Log.} \\
 \frac{z+1}{2} = 11 & & 0.2808266 \quad (0.0255297 \\
 & & \text{Num.} \quad 1.06054 \\
 & & 2y = 0.12108 \\
 & & b = 0.3 \\
 & & \text{Log.} \quad 9.4771219 \\
 b - 2y & & 0.17892 \quad \text{Log.} \quad 9.2526589 \\
 \sqrt{0.23168} & & 18.7297802 \\
 1 + b - \sqrt{} = r & & 1.06832 \quad \sqrt{} \quad 9.3648901 \\
 & & \text{The Rate sought.}
 \end{array}$$

The Rate r thus found is always some small matter too big, the true Rate being 1.06814; but as the Number of Years are fewer, the Error becomes insensible. If greater Exactness be required, 'twill be easy by the general Method for the Resolution of Equations, having so near an Approximation to prosecute this enquiry as far as you please. But this seems abundantly sufficient for Use, which is our principal Design in this Place.

Lastly, By way of Corollary to the former. Let it be required to find the Rate of Interest allowed the Purchaser when he pays a Sum $= z$, for an Annuity $= a$, wherein he has already a Term $= t$, to have it prolong'd for a certain Time $= x$. As for Example, I have an Annuity of 20 l. per Annum for the Term of 21 Years, and for 40 l. paid down, I can have my Term prolonged for 10 Years more, or to 31 Years. I demand, what Rate of Interest is allowed me. Rule. Call $2t + x + 1$ by the Name of T , and $\frac{1}{2} T$ shall be the Radical Sign of a Root of $\frac{a \cdot x}{z}$. Let $\sqrt{\frac{1}{2} T \frac{a \cdot x}{z}}$ be equal to $1 + y$. and $\frac{6T + 6}{x \cdot x} = b$. I say the Rate sought is very near to $1 + b - \sqrt{bb - 2by}$. As in the foregoing Example.

Log.

$$\begin{array}{rcl}
 \text{Log. } a = 1.3010300 & 2t + x + 1 = T = 53 & \\
 \text{Log. } x = 1.0000000 & & \\
 \hline
 2.3010300 & \frac{6T + 6}{x \times} = 3,24 = b & \\
 1.6020600 & & \\
 \hline
 \frac{1}{2}T = 26\frac{1}{2}) 0.6989700 (0.0263762. & \text{Log. } 1.062616 & \\
 & .125232 = 2y & \\
 \text{Log. } b. 0.5105450. & 3.24 & b \\
 \text{Log. } 0.4934257. & 3.114768 = b - 2y & \\
 \hline
 1.0039707 & & \\
 \sqrt{0.5019853} & 3.176768 & \sqrt{bb} = 2by \\
 \text{The Rate} = r = & 1.063232 & \\
 & \text{or } 6\text{ l. } 6\text{ s. } 5\text{ d. per Cent.} &
 \end{array}$$

As will be readily proved by seeking the Value of the Reversion of an Annuity of 20 l. per Annum for ten Years after 21 ; at the rate of 1,063232 per Cent. The Work stands thus.

$$\begin{array}{rcl}
 r = 1.063232 & \text{Log. } 0.0266280 & \text{Log. } r \\
 \text{Log. } r^2 & 0.5591880 & \text{Log. } r^2 \\
 8.8009369 & \text{Log. } r - 1 & \\
 \hline
 9.3601249 & \text{Sum} & \\
 0.6398751 & \text{Comp. Arith.} & \\
 1.3010300 & \text{Log. } a & \\
 \hline
 \text{Reversion. } 87,2781 & 1.9409051. & \text{Log. Reversion after } 21 \\
 & 0.2662800. & \text{Log. } r^2 \\
 \text{Reversion. } 47,2743 & 1.6746251 & \text{Log. Reversion after } 31 \\
 \text{Value } 40.0038 & \text{Sought.} &
 \end{array}$$

Thus it appears that 40 l. and about one Penny, is the true Value of the Difference of the Reversions : by which the Reader may judge how near an Approximation the foregoing Rule affords, towards finding the Rate of Interest, when the Value of an Annuity for a Term of Years to commence after a certain Time is proposed.

The Propositions of Navigation that occur in the Practice of Sailing by Mercator.

IN this Collection of Tables, we should by no means have omitted that most necessary one of the Meridional Parts, designed for the Service of Navigators, if its Uses were not fully supply'd by the Table of Logarithmick Tangents : As is demonstrat'd in N^o 219 of the Philosophical Transactions. It is there proved. 1^o. That the Meridional Line, or Scale of *Mercator's Chart*, is a Scale of the Logarithm-Tangents of the half Compliments of the Latitudes. 2^{dly}, That such Logarithm-Tangents of Mr. Briggs's Form, are a Scale of the Differences of Longitude, upon the Rhumb which makes an Angle of $51^{\circ}. 38'. 9''$. with the Meridian. And 3^{dly}, That the Differences of Longitude, on differing Rhumbs, are to one another as the Tangents of the Angles of those Rhumbs with the Meridian.

Hence it follows, that the Difference of the Logarithm-Tangents of the half Compliments of the Latitudes, is to the Difference of Longitude a Ship makes in Sailing on any Rhumb, from the one Latitude to the other, as Tangent of $51^{\circ}. 38'. 9''$. (whose Logar. is 10.1015104.) to Tangent of the Angle of the Rhumb or Course with the Meridian. So that if two Latitudes, and the Difference of Longitude be given, the Course is readily determined by this Rule. Take, by help of the Tables, the difference of the Logarithm-Tangents of the half Compliments of the Latitudes, esteeming the three last Figures to be Decimals ; and subtract the Logarithm thereof from the Sum of the Logarithms of the Difference of Longitude reduced to Minutes, and of the constant Log. 10.1015104. The Sum shall be the Log. of the Tangent of the Course. And to Log. of the Secant of the Course, add Log. of the Difference of Latitude reduced to Minutes, the Sum shall be Log. of the Distance in Minutes.

Exam-

Example..

The *Lizard* is in Lat. $49^{\circ} 55'$. North. *Barbados* in $13^{\circ} 10'$. N. Difference of Long. $53^{\circ} 00'$, or 3180 Minutes. Difference of Lat. 2205 Minutes.

$$\begin{array}{rcl}
 \text{Comp. Lat. } \left\{ \begin{array}{l} 76^{\circ} 40' \\ 40. \quad 5 \end{array} \right\} \div \left\{ \begin{array}{l} 38^{\circ} 25' \\ 20. \quad 2 \frac{1}{2} \end{array} \right\} & \begin{array}{l} \text{Tan. } 9.8993082 \\ \text{Tan. } 9.460477 \end{array} & \begin{array}{l} 3.5024271: \text{Log. } 3180 \\ 10.1015104 \\ \hline 3.6039375. \end{array} \\
 \text{Diff. } 3372.605 & \text{Log. } 3.5279654 & \text{Log. diff. Tang.} \\
 \text{Tang. } 49^{\circ} 59' 10'' & 10.0759721 & \text{Tang. Course} \\
 & 10.1918071 & \text{Secant Course} \\
 & 3.3434086 & \text{Log. } 2205. \\
 \text{Minutes } 3439.38 & & 3.5352157. \text{ Log. distance.}
 \end{array}$$

Thus may a Ship at Sea estimate the true Course she must Steer, and the Distance of her Port.

II. If two Latitudes and the Course be given, the Difference of Longitude is obtained with the same Ease: For as Tangent of $51^{\circ} 38' 9''$. to the Tangent of the Course, so the Difference of Logar. Tangents of the half Complements of Latitudes, to the Difference of Longitude sought. Wherefore from the Sum of the Logarithm-Tangent of the Course, and of the Log. of the said Difference of the Logar. Tangents of the half Complements of the Latitude, subtract the constant Log. 10.1015104: the Remainder shall be Log. of the Difference of Longitude in Minutes: as in the former Example. Let the Latitudes be $49^{\circ} 55'$. and $13^{\circ} 10'$. and Course $49^{\circ} 59' 10''$.

$$\begin{array}{rcl}
 \text{The Differ. of the Log. Tang. } 3372.605 & \text{its Log. } 3.5279654 & \\
 & \text{Log. Tang. Course } 10.0759721 & \\
 & 13.6039375 & \\
 & 10.1015104 & \\
 \hline
 \text{Log. Long.} & = 3180. & 3.5024271 \text{ or } 53^{\circ} gr.
 \end{array}$$

By this Rule, having two good Observations of the Latitude and the Course duly steerd, the reckoning of a Ship's Way is best ascertained, especially if you Sail near the North or South.

III. The Latitude you depart from, the Course Steerd and distance Sail'd being given, 'tis required to find the Ships Latitude and Difference of Longitude. First the Latitude is obtain'd from the Consideration that the Distance is to the Difference of Latitude or the *Hypotenusa* to the Base, as Radius to the Co-line of the Course, which is common to Plain-sailing. Then having the two Latitudes and Course, the Difference of Longitude is found by the last Rule.

Exam.